JUN 25 1928

PAPER TRADE JOURNAL

Vol. LXXXVI, No. 25 JUNE 21, 1928 United States, Per Annum, $4.00 Canada and Foreign Countries in Postal Union, $6.00

Showing entire Fourdrinier part rolled out by power as a complete unit, making changing of wires a quick, simple and easy operation.

View from rear of machine after the Fourdrinier has been rolled out. Note ease of accessibility. After wire is installed, Fourdrinier is rolled back into position and machine is ready to run.

21 *advantages of the removable* Fourdrinier

1. Assures more safety to men.
2. Preserves your most expensive machinery (no necessity for dismantling and reassembling Fourdrinier inside the wire).
3. Permits using necessary savealls full wire length.
4. Requires no handling of savealls.
5. Requires no handling of suction boxes.
6. Requires no handling of breast roll.
7. Requires no handling of table rolls.
8. Requires no handling of bearings.
9. No danger of table or wire rolls being bent, dented or damaged.
10. Prevents crimping of new wire while being put on.
11. No extra crew required to put on wires.
12. No "Cigarette Holder" or crane used with Beloit Cantilever Suction Couch.
13. Preserves the necessary true and perfect alignment of running parts and rolls.
14. Entire Fourdrinier rolls out as a unit.
15. Eliminates all heavy, back-breaking straining and lifting.
16. Makes the workers happier.
17. Saves hours of time formerly lost.
18. Increases production.
19. Utilizes brains instead of brawn.
20. Saves wages.
21. Saves you money.

The REMOVABLE *Way is the* MODERN *Way*

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The BELOIT

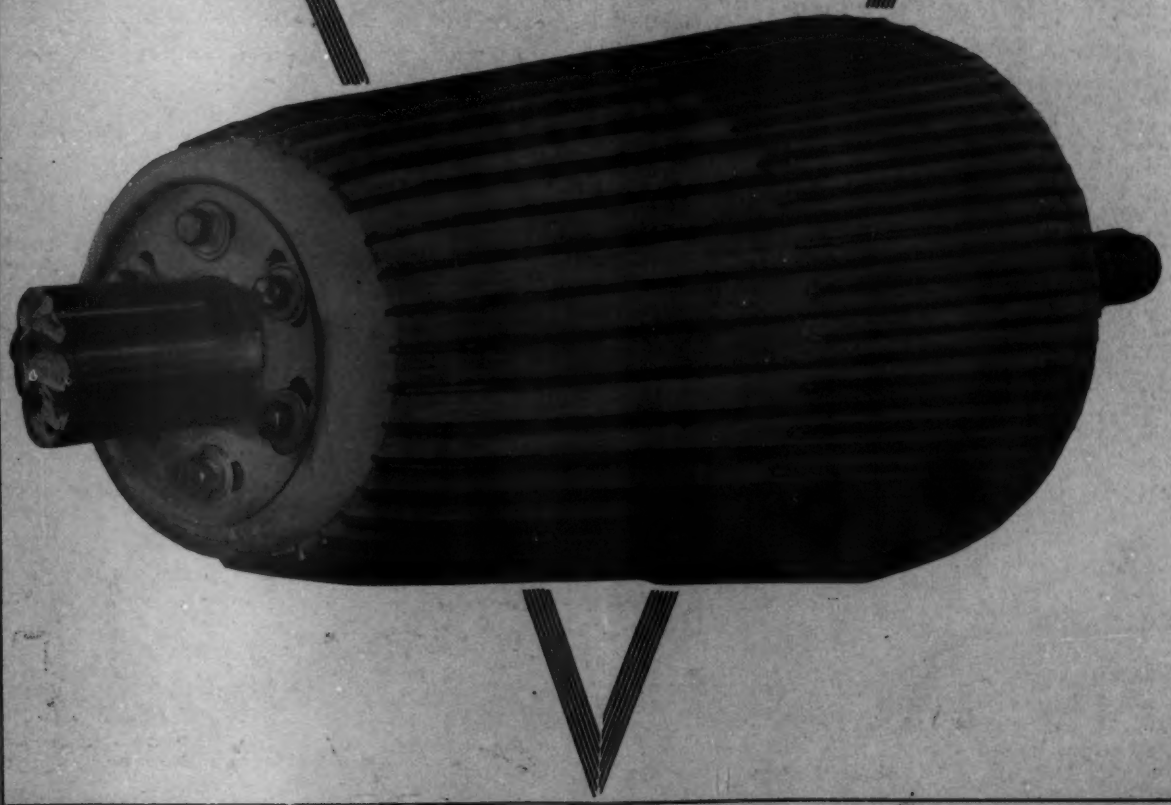
Hundreds of Jordans Equipped, yet Not a Single Complaint

Hy-ten-sl is the toughest, strongest and best wearing bronze on the market,—far exceeding steel and other bronzes in these respects. Hundreds of Jordans are equipped with Hy-ten-sl Knives and in not one case has there been a complaint on quality or service. The investment has always been found to pay,—one mill reporting that a Jordan equipped with Hy-ten-sl Knives saved them $2000. in one year.

Hy-ten-sl Knives do not corrode along the back leaving only a thin cutting edge and they do not burr or wear rapidly necessitating frequent replacements. They maintain a uniform stock treatment during their entire service life, with practically no attention. Hy-ten-sl successfully resists the corrosive action of acids and chemicals encountered in the paper mill.

Try Hy-ten-sl Knives on one of your Jordans and notice the difference. May we quote you on a set for both plug and shell?

American Manganese Bronze Co.
Holmesburg, Phila., Pa.



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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President — F. K. HOPPIE, Secretary

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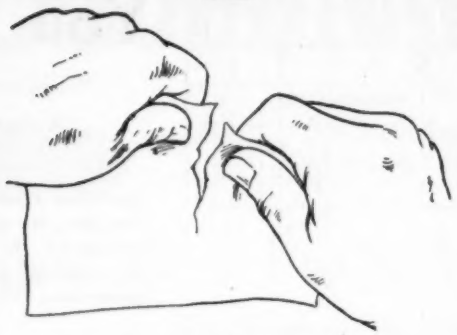

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If you test paper by tearing with your fingers, are you able to state its EXACT tearing strength?

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ELMENDORF PAPER TEARING TESTER

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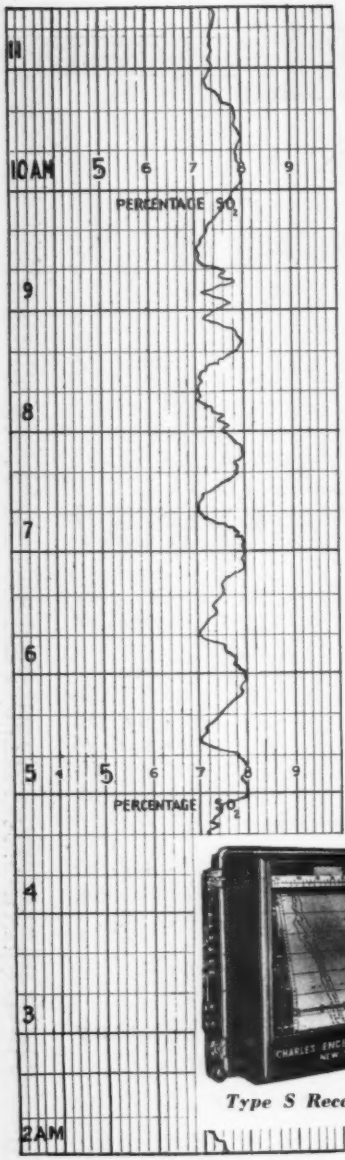


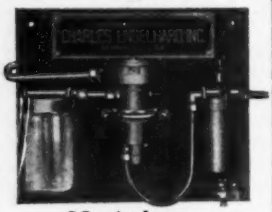
What SO_2 Are You Making?

"Knowledge is Power"

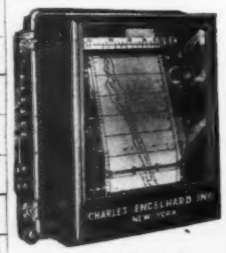
Are you running high or low? Are you sure no air leaks are causing acid troubles? Is your acid maker certain of getting a strong SO_2 gas with minimum SO_3?

Engelhard SO_2 Recorder

will give you exact knowledge of what SO_2 you are holding, or a record of the previous shift, or of any former period. Such knowledge is essential for efficient operation and for preventing waste of sulphur, fuel, time, and labor.



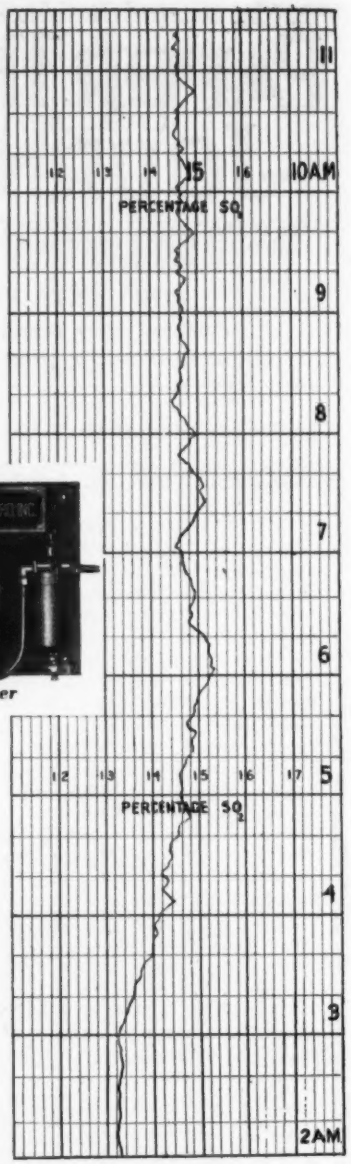
SO_2 Analyzer



Type S Recorder

Parts of two different Recorder charts are shown here. The strip to the left shows low SO_2. The strip to the right shows efficient operation of a burner after a slight fall-off early in the morning.

The Analyzer continuously samples gas from the burners and analyzes it for SO_2 content thermo-electrically. Quartz sheaths protect the heating elements of the analysis cell from vibration and catalytic action, assuring *enduring accuracy*. The Recorder can also be connected with a Pyrometer and show temperature readings along with SO_2.



The readings are registered on the Recorder chart, which is 6 inches wide and can show up to 6 records at once in black or in colors.

Guessing at what the burners may be doing, through ignorance or carelessness, is costly. Many paper mills have found Engelhard SO_2 Recorder extremely valuable in detecting losses. In one mill it paid for itself within three months.

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Attach this coupon to your letterhead and mail to us today to get further information on the use of Engelhard SO_2 Recorder in paper mills.

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. LXXXVI, No. 25 Thursday, June 21, 1928

International Paper Acquires Moss Point Mill

Plant Formerly Owned By Southern Paper Co., Is Located On Tidewater, Pascagoula River, Mississippi—Modern Building of Steel, Concrete and Brick Construction Is Equipped With Three Machines With Daily Capacity of 100 Tons of Kraft Paper—Organization Has Now Daily Capacity of 530 Tons of Kraft and Board

The International Paper Company has acquired the kraft paper mill at Moss Point, Mississippi, formerly owned by the Southern Paper Company. Located on tidewater on the Pascagoula River in the southeastern corner of the State of Mississippi, the mill has three machines of a daily capacity of 100 tons of kraft paper. The mill is of steel, concrete, and brick construction, and is thoroughly modern.

The International Paper Company has three other Southern kraft paper mills—two at Bastrop, Louisiana, and the recently completed mill at Camden, Arkansas, and is the largest producer of kraft paper in the world. With the acquisition of the Moss Point mill, the company has a daily capacity of approximately 530 tons of kraft paper and board.

Hammermill to Issue $5,500,000 Preferred Stock

Plans of Hammermill Paper Company to pay a stock dividend on its common stock amounting to $25 par amount of preferred stock for each share of common outstanding are disclosed in the announcement that a banking group headed by A. G. Becker & Co. would offer shortly a new issue of $5,500,000 of the company's 6 per cent cumulative preferred stock. Only $1,000,000 of the issue represents new financing for the company, the balance having been purchased from individuals.

Concurrently with the issue of this preferred stock, the company will provide for the retirement of $2,500,000 7 per cent cumulative preferred stock, the elimination of $1,500,000 good will from its balance sheet, the purchase of a substantial stock interest in another mill in new territory for $1,000,000 in cash, and the payment of the dividend. As a result of the financing, ownership of a substantial majority of the common stock will be consolidated in the hands of the active management.

Hammermill Paper Company, ranking among the largest makers of fine writing and printing papers in the country, will have outstanding, on completion of this financing and the retirement of its 7 per cent preferred, $5,500,000 7 per cent cumulative preferred stock; 180,000 shares of $10 par value common, and $536,500 first mortgage 6 per cent bonds.

Royal Securities Buys Rolland Paper Co.

MONTREAL, Que., June 18, 1928.—The Royal Securities Corporation has acquired the plants, properties and business of the Rolland Paper Company of Montreal, it was announced today. The Rolland company is one of the oldest writing paper manufacturing concerns in Canada, the first mill having been established at St. Jerome, Quebec, in 1882. In addition to the St. Jerome mill the company owns a large mill at Mount Rolland, Quebec. Active management of the company is to remain in the hands of the Rollands.

Gillette Acquires Wood Flong Plant

[FROM OUR REGULAR CORRESPONDENT]

MECHANICVILLE, N. Y., June 18, 1928.—The Gillette Fibre Mills, incorporated about two years ago and since then occupying a portion of the plant of the Wood Flong Company, has completed a deal by which the Gillette Company acquires the entire Wood Flong plant consisting of three mills, boiler house and warehouse. The Gillette firm will utilize the plant for the manufacture of its regular lines of fiber board and will give employment to many of the former Wood Flong workers. It is understood that considerable new machinery will be added.

The Wood Flong Company's property consists of modern buildings and is suitable in every way for the needs of the Gillette Fibre Mills. The property includes valuable water power rights on the Hudson River.

Kennelly Paper Co. Changes Quarters

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 11, 1928.—The Kennelly Paper Company of Massachusetts has changed its office from 10 High street, where it has been located for more than five years, to 520 Park Square Building. The new office is in charge of Leonard Grouard, who will take care of the New England business. Mr. Grouard is a graduate of Williams College, 1923. This is his first experience in the paper business. The New York office of the Kennelly Paper Company reports for the first five months of 1928 the largest amount of business in its history.

Pacific Lumber Co. to Build Paper Mill

SACRAMENTO, Cal., June 15, 1928.—Plans for the Pacific Lumber company, Scotia, Humboldt county, to construct a 150 ton paper and pulp mill as an adjunct of its lumbering operations in the northwest were advanced recently when the state division of water rights issued a permit for the water supply necessary to the venture.

The cost of the business venture was estimated by officials at $3,000,000.

Fort William Paper Co. Closes Its Entire Plant

Reasons For Closing Subsidiary of Spanish River Pulp & Paper Mills Not Yet Divulged—Provincial Forest Patrol Accomplishing Important Work—Col. C. H. L. Jones to Head New Nova Scotia Paper Organization—New Pulp & Paper Concern Formed

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, June 18, 1928.—The closing down on June 11 of the entire plant of the Fort William Paper Company, at Fort William, Ont., came as a surprise in Ontario paper trade circles. The company is a subsidiary of the Spanish River Pulp and Paper Mills, which organization has recently been merged with the Abitibi Power and Paper Company. D. G. Calvert, manager of the plant, had nothing to say regarding the shut down beyond the fact that he had received orders from headquarters, nor could he say how long it would be closed. Three hundred men are out of work as the result of the shut down.

The Fort William Paper Company was incorporated in 1920 under the laws of the Dominion of Canada, with head office at Fort William. The present directors are: George H. Mead, chairman of the board, Dayton, Ohio; W. N. Hurlbut, president, Dayton, Ohio; George R. Gray, vice-president, Sault Ste. Marie, Ont.; C. H. L. Jones, vice-president, Sault Ste. Marie; Sir Herbert Holt, Montreal; J. S. Norris, Montreal; W. N. Patterson, Fort William, and T. H. Watson, Toronto. The capital stock, which is all owned by the Fort William Power Company, Ltd., consists of 100,000 authorized shares of common, of which 40,000 have been issued with no par value. 1,500 shares of preferred stock at $100 have been issued out of the $5,000,000 authorized. The total $3,500,000 authorized for first mortgage bonds was first offered to the public in June, 1926, at 98½ and interest.

The last statement of earnings, for three months ending March 31, 1926, is $213,859.86, which would give an approximate yearly earning of only about $69,000 under the annual average of $710,868.46. After deducting all operating charges, maintenance and repairs, but before depreciation, depletion and Dominion taxes, the earnings for the year ending June 30, 1924, were $655,697.88. For the next year the earnings were $35,492.47 and for the last six months of 1925 they were $349,833.09. Officials of the Spanish River Pulp and Paper Mills, when seen at the head office in Toronto, said they had heard nothing about the reason for closing the plant.

Look-Out Towers Protect Forests

At least 25,000,000 acres of Ontario pulpwood and forest land is this season under direct observation from look-out towers, which are linked to central offices and district fire rangers by 1,500 miles of telephone line. Fifteen to twenty towers are being added to the chain this year, about an eighth of which are up in the clay belt, the Spruce Falls and Abitibi region and Kapuskasing country. The towers are invariably on high ground, and have a radius of vision of 15 to 20 miles, sometimes more. Some of the steel towers are 50 feet high. This picturesque but effective means of fire detection has a field of its own, notwithstanding development of the forest air patrol system, and in the opinion of E. J. Zavitz, provincial forester, will eventually eliminate the necessity of daily flying patrols. "The tower system is being extended into Sudbury and North Bay districts and a good part of the Temagami region is under towers now," he said. "There is no flying in the French River area." The towers are manned by residents of the district as a rule. The district officers are necessarily graduate foresters. The look-outs are always in connection by telephone with a central office, and are chiefly employed in detection of fires, not suppression, but frequently a "smoke chaser" can proceed direct to the spot and extinguish a fire in its early stages, without assistance.

Fine Flying in Ontario Air Service

The new record for a single day's flying that has been set by a pilot of the Provincial Forestry Patrol directs public attention to the splendid service that is being rendered Ontario by the Government air patrol. In one day a Provincial air pilot put in thirteen hours and twenty-five minutes in the air patroling timber resources in the Pine Ridge district, in Northern Ontario. It is claimed that no finer service in the sphere of practical aviation is being rendered anywhere in the world than that which is being given to Ontario and to the Dominion by the various forest patrols of the Provincial Governments. In Ontario, alone, it is pointed out, the air force has been worth millions of dollars in cold cash to the Government in the service it has rendered in coping effectively with the fire hazard. It is this practical use of the science of flying that makes it of inestimable value to the world. As one of the officials of the Forestry Department said: "The work of the forestry patrol may not be as spectacular as flying the ocean, but one fire spotted and extinguished by the forest flier is of infinitely more real importance than any number of 'stunt' flights. As the resources of the Province are developed and the engineer and the prospector go farther afield, the need for the forest patrol becomes greater. The wealth of Ontario is to a large extent in her timber; and to conserve this resource from destructive fires is service to the people of the most practical kind."

Colonel Jones Slated For Nova Scotia

Colonel C. H. L. Jones, vice-president and manager of Woods Operations, of the Spanish River Pulp and Paper Mills at Sault Ste. Marie, Ont., which recently merged with the Abitibi Power and Paper Company, has severed his connection with that concern, and will shortly leave the Sault for Liverpool, Nova Scotia, where he will become president of the paper mills being constructed there by the Royal Securities Corporation of Montreal. Colonel Jones has been a resident of Sault Ste. Marie for some twenty-five years, being associated with the paper mills there during the time of F. H. Clergue. The Colonel, in addition to work on behalf of the industrial enterprises with which he has been connected, has taken a foremost part in public affairs, serving on the Board of Trade and the Parks Board, raising a battalion to be taken overseas and acting as General Chairman for the Discovery Week celebration. He has been the head of the city regiment since its revival, following the close of the war, and active in the work of the War Veterans' Association. He will be greatly missed at the Sault.

Long Record With Toronto Paper Firm

John T. Hornibrook, who has a record of 61 years with Brown Bros., Ltd., paper dealers, Toronto, on June 14 celebrated his seventy-ninth birthday by going to his office in the plant as usual. Still hale and hearty Mr. Hornibrook takes as active an interest in the administration of the company's affairs as any one on the executive staff. He served in the Fenian Raid in 1866 and the next year entered the employ of the wholesale stationery and paper firm, with which he is still connected as Secretary and Director. Mr. Hornibrook is the Senior Past Grand Master of the Independent Order of Odd Fellows, a Past President of the Veterans of '66, and an officer of the Queens Own Rifles of Canada Association. Congratulations and flowers were received by him from the paper and allied trades throughout the city.

Use of Paraffined Paper For Fruit

Ontario manufacturers of light weight papers were interested in an address on the ways of widening markets for the products of Canadian orchards at Convocation Hall, Toronto, by Sir William Hardy, world authority on refrigeration and cold storage. Sir William, who is Director of the Low Temperature Station for

Research in Biochemistry and Physics of Cambridge University, presented a popular account of improvements which are being introduced in the storage of foodstuffs as a result of recent scientific research and he declared that the freer use of paraffined paper would add greatly to the conserving and preservation of the fruit. "Foods in storage are as alive as when they are on the tree or a part of a living animal," Sir William pointed out. "Chemical change takes place continually during shipment and holding. This alteration may correspond to normal ripening. Scientific storage aims to provide the conditions which will enable this normal curing to take place, or, if this is not possible, to make sure that compounds will not develop in the foodstuff which will render it less acceptable to the consumer. During the ripening of apples, two chief changes take place. The sugar content increases, and the pectin—the less digestible constituent—is absorbed. The time required for this process to take place naturally is fixed by the previous history of the apple when it is harvested. The conditions during storage can be so adjusted that the process is just complete when the apple is sent on the market. While the ripening is taking place it is necessary to control moulds which cause shrivelling if they are allowed to grow. The skin of the apple contains a normal defence against moulds in the chemical acetaldehyde, a substance intermediate between ethyl alcohol and acetic acid, but this protection is of little use unaided. The acetaldehyde which the apple will produce can be concentrated in its skin, where it is required, by wrapping the fruit in paraffined paper, thereby increasing the natural resistance to the invasion of moulds."

T. L. Crossley Addresses Kiwanis Club

T. L. Crossley, of Toronto, addressed the Hamilton Kiwanis Club on the Development of Paper Making. He discussed the rapid growth of paper production following the increased demand and the use of new raw materials. The importance of forest protection to the perpetuity of the Canadian paper industry was shown, and the speaker pointed to the advantage of Canada in respect to water powers.

Heavy Ontario Fire Forest Losses

Ontario has not got off on the right foot this year in so far as forest fire losses are concerned. Hon. William Finlayson, Minister of Lands and Forests, stated this week that already to date more timber and pulpwood acreage has been laid waste than was devastated during the whole of 1927, when approximately 35,000 acres were burned over. This year's losses have been confined practically to the northwestern corner of the Province, where lack of snow to begin with, and now lack of rain, have created about the most serious spring fire hazard with which the department has ever had to deal. The most recent report received by Mr. Finlayson from the District Forester at Sioux Lookout, indicates that the heavy rain of June 1 was not general north of Pine Ridge, and that the fire hazard still remains high north of that point. "The large fires at Cairns Lake and on the Berens River are still burning," the District Forester says, "but are in better shape now. On June 4 the fire on the south of Cairns Lake went out of control again with a high wind and ran for several miles. We placed three H. S. machines on the fire at once and the front is now held again. One machine stayed right on the fire, and was used for moving the crews rapidly from one point to another, as there are many landing lakes in the vicinity. All men and equipment were flown in and also one split canoe. A portable radio was also flown in. The fire is two hours by H. S. from Pine Ridge. The Berens River fires are at the limit of H. S. operations. A large fire reported to have a ten-mile front is burning in Manitoba, just south of the Berens River, and about twenty miles from the Ontario line. We have this under close observation from the Moth patrols in case it moves eastward. On June 6 the Moth patrol located three fires about thirty miles northeast from Pilangikum Lake, one of which is six miles long. These are beyond our reach with our present flying equipment. On the same date three Class C fires were picked up on Woman Lake, and the next day, one on Wenasage Lake; one on the east shore of Lac Seul, one south of Osnaburgh House, on Paskalogan Lake, and one southeast of Armstrong. All of these fires were being fought with crews and pumps within 24 hours. Lightning from a dry electrical storm on the seventh is reported to have started most of the fires on that day." Mr. Finlayson points out that most of the timber destroyed to date is not of a very valuable type.

Notes and Jottings of the Trade

A provincial charter has been granted to the Canadian Pulp and Paper Corporation, with a capital stock of 28,400 shares of no par value. The amount of capital stock with which the company commences its operations will be $142,000. The company is empowered to carry on the business of lumber and the lumber trade in all its branches as well as to deal in ties, poles, and posts and to conduct the business of manufacturer and dealer in pulpwood, paper and other products. The provisional directors are Arthur Fitzpatrick, William Amyot and Maurice Dupre, of Quebec, Que.

On supplementary letters patent issued by the Dominion Government the capital stock of the Hinde & Dauch Paper Company of Canada, Ltd., has been increased from 55,780 shares without nominal or par value to 300,000 shares without nominal or par value, by the creation of 244,220 shares.

The C. V. Syrett Paper Company, Ltd., Front street, Toronto, have just issued a very attractive calendar advertising St. Lawrence paper bags, "Beaver," "Maple Leaf" and "Lion." The calendar is printed on Wayagamack Kraft from which St. Lawrence bags are made. The distributing company are also sending out to the trade a very artistic line of blotters which come from their advertising and service department.

Miss Aileen V. Hanlon, daughter of the late Edward Hanlon, Canada's noted oarsman, and in charge of the bookkeeping, credit and collection departments of the Toronto Typothetae, has been granted two month's leave of absence and will spend some time in England and on the Continent.

A. L. Lewis, president of the United Typothetae of America, accompanied by several of the leading Toronto paper wholesalers and paper manufacturers, will attend a meeting of printers and wholesalers in Montreal this week when the matter of standardizing weights and sizes of paper turned out by the mills and stocked by the printers will be considered. It is claimed that a vast saving can be effected by eliminating a lot of odd sizes and lines now put out by the mills and efforts to come together on a working basis to correct the existing evil of too many weights and sizes will be made.

George Carruthers, son of George Carruthers, head of the Interlake Tissue Mills, Limited, at Thorold, Ont., was a recent graduate from the University of Toronto. The young man will tour Great Britain and the Continent before joining Interlake mill forces.

Harvey Smith, of the Laurentide Company, was a business visitor in Toronto during the past few days.

May Buy Stock of Western Board Co.

KALAMAZOO, Mich., June 18, 1928.—L. W. Sutherland and F. W. Sutherland, respectively president and secretary of the Sutherland Paper Company have made an offer to officers and directors of the Western Board and Paper Company for the purchase of two thirds of the stock of the latter concern at $20 a share.

This proposition apparently meets with favor on the part of Western Board officials for a letter signed by A. E. Curtenius, president of the company and W. A. Hodge, secretary, has been mailed to all stockholders, asking immediate action on the matter.

The Western Board and Paper is capitalized at $250,000 (25,000 shares of $10 par stock). Purchase of two thirds would necessitate the transfer of at least 16,667 shares and involve the expenditure of $333,334. The last Western Board statement shows gross assets of $550,572.81 and surplus of over $166,000.

Sutherland stockholders meet at 4 Monday afternoon to consider the sale of 25,000 shares of the Sutherland stock to Keane, Higbee & Company, Detroit.

Hearst Sues Canadian News Print Companies

Brings Suit for $24,740,000 Damages Against Nine News Print Mills and One Selling Organization on Alleged Breach of Contract—Purported Sales Contract Made April 2, Reported to Have Been Broken April 21—Oral Agreement Alleged

Notice of a suit for $24,740,000 damages against nine Canadian news print manufacturers and one Canadian news print selling company for alleged breach of contract has been served through the office of Max D. Steuer for William Randolph Hearst and the Newspaper and Magazine Paper Corporation, a Hearst subsidiary. Notice of the suit was served in the form of an attachment obtained from Justice Valente in the Supreme Court of New York County. The attachment, served in lieu of a summons and complaint because the defendants were foreign corporations, was served on T. T. Waller, described as vice president of the Canadian Newsprint Company of 420 Lexington avenue, which was said to be a part of the Canadian Paper Sales Ltd., one of the parties named as defendants.

The papers accompanying the attachment set forth that the Newspaper and Magazine Paper Corporation made an oral agreement with the Canadian Paper Sales, Ltd., as detailed in a printed document called a sales contract and made a part of the complaint, to supply nearly a score of Hearst newspapers with 3,000,000 tons of news print, to be delivered 300,000 tons annually for ten years. This agreement, it was set forth, was made on or about April 2, 1928, providing actually for about 460,000 tons of news print for the current year, but that on April 21, 1928, the Canadian Paper Sales, Ltd., "failed and refused and gave notice it would continue to refuse further to perform the sales contract." Damages asked for this alleged breach aggregated $10,840,000. The affidavit with the complaint was signed by Austin W. Clark, vice president of the Newspaper and Magazine Paper Corporation.

Hearst Guarantee Complaint

Mr. Hearst's suit against the same companies aggregated $13,900,000. As set forth in a printed document made part of his complaint and called the Hearst Guarantee, Mr. Hearst, as guarantor of the Newspaper and Magazine Paper Corporation, and the corporation were each to receive rebates for every ton of paper purchased from the seller. These rebates were given as 2.828 per cent for the corporation for every ton of paper paid for at the rate of $3.25 per hundredweight, plus an agreed upon freight charge, and 15.8286 per cent for Mr. Hearst for every ton of paper on which the aggregate cost exceeded $50 per ton for white paper and $53 per ton for colored paper.

Mr. Hearst and the Newspaper and Magazine Paper Corporation, respectively, asked damages of the following companies in the amounts set after their names:

Canadian Paper Sales, Ltd., $6,950,000 and $5,420,000.

Abitibi Power and Paper Company, Ltd., $2,200,000 and $1,750,000.

Anglo-Canadian Pulp and Paper Mills, Ltd., $550,000 and $415,000.

Brompton Pulp and Paper Company, Ltd., $250,000 and $180,000.

Fort Frances Pulp and Paper Company and Kenora Paper Mills, Ltd., jointly, $1,200,000 and $900,000.

Laurentide Company, Ltd., $500,000 and $400,000.

Port Alfred Pulp and Paper Corporation, $500,000 and $400,000.

Price Brothers & Co., Ltd., $810,000 and $625,000.

St. Maurice Valley Corporation, $1,015,000 and $800,000.

Details of Alleged Contract

The printed paper called the sales contract specified that the "seller" agreed to sell and deliver and the "purchaser" agreed to take and pay for 3,000,000 tons of paper to be delivered 300,000 tons annually beginning January 1, 1928, and ending December 31, 1937. It provided for the delivery on order of any excess above 300,000 tons in 1928 and fixed a maximum increase of 7 per cent of the total delivered in 1928 as deliverable in 1929 and a 7 per cent increase in each succeeding year.

The "purchaser" agreed to inform the seller in writing of how much paper would be needed every month and to give the "seller" a two weeks' option to furnish any excess needed. Should the "seller" fail to exercise this option the "purchaser" was to agree not to buy elsewhere an amount of paper greater than that given in the option.

The "purchaser" agreed to give notice in writing to the "seller" in the event W. R. Hearst acquired control of or established other newspapers "east of 104th degree West Longitude," to give the "seller" statements of existing commitments of those newspapers and to give the "seller" the option rights to supply news print to those newspapers after the expiration of those commitments.

In the paper called the "Manufacturers' Agreement" it was said that the following nine manufacturers agreed with the "seller" to furnish to the "New York Company" news print in the proportion fixed:

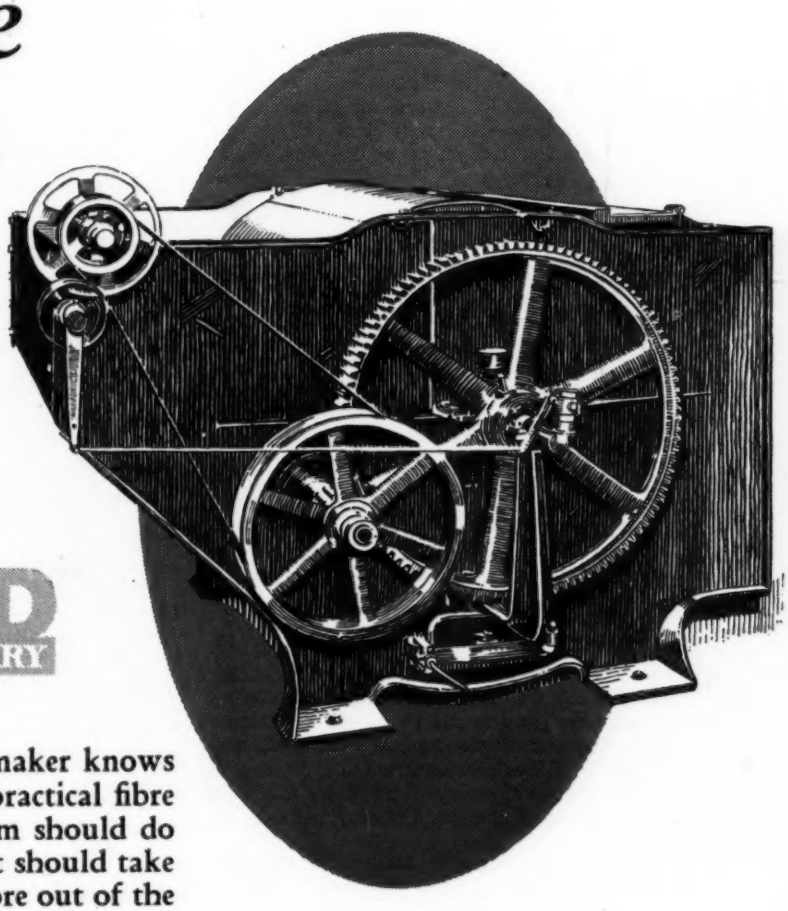
Abitibi Power and Paper Company, Ltd., 31.68 per cent; Anglo-Canadian Pulp and Paper Mills, Ltd., 7.93 per cent; Brompton Pulp and Paper Company, Ltd., 3.60 per cent; Fort Frances Pulp and Paper Company, Ltd., and Kenora Paper Mills, Ltd., together, 16.67 per cent; Laurentide Company, Ltd., 6.34 per cent; Port Alfred Pulp and Paper Corporation, 7.18 per cent; Price Brothers & Co., Ltd., 11.76 per cent; St. Maurice Valley Corporation, 14.84 per cent.

The "manufacturers' agreement," it was set forth, was made for the protection of the "seller," "manufacturer" and the "New York Company," and it was provided that "in the event of any failure on the part of the seller to supply to the New York Company the paper required to be delivered under the sales contract the New York Company, in addition to all its other remedies, and without prejudice to its rights against the seller under the sales contract or otherwise, shall have the right at its option to require each of the manufacturers to deliver to the New York Company the paper which such manufacturers respectively are hereby obligated to deliver to the seller, to the extent to which such obligations have not previously been discharged by such manufacturers respectively. And in such event the New York Company shall make payment therefor to the manufacturers respectively who deliver such paper at the prices then and thereafter in effect from time to time under the sales contract after deduction or addition as the case may be of any charges, whether on account of freight, commissions, compensators for guarantee or otherwise, which the seller shall have agreed to under the sales contract, or under any other agreement to which the seller and New York Company are parties."

Paper Testing Committees Meet

The Paper Testing Committees of the Technical Association met at the Bureau of Standards, Washington, D. C., on Thursday. Among those present were B. W. Scribner, H. V. Kiely, R. H. Simmons, E. O. Reed, P. F. Wehmer, E. G. Hain, E. A. Bergholtz, R. G. Macdonald and members of the Paper Section of the Bureau.

The Sensible System



BIRD MACHINERY

Every paper maker knows that a good, practical fibre recovery system should do two things. It should take most of the fibre out of the waste water. It should leave the water clear enough for immediate reuse.

The Bird Save-All does just that. It is helping many paper makers to approach 100% recovery at maximum profit.

BIRD MACHINE COMPANY
South Walpole
Massachusetts

The BIRD SAVE-ALL

2011

Paper Demand Fairly Satisfactory in Chicago

Some Observers of Market Predict News Print Price Cutting Battle, Due to Over Expansion of That Industry—Purchasing Reported to be Slightly More Spirited in Many Grades of Paper—Wrapping Paper Continues to Move in Good Volume

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., June 18, 1928.—The news in the Chicago paper market for this week centers around reports concerning the impending news print price war brought on by reported factors of an over-expansion in the industry, collapse of the Canadian Newsprint Company, Ltd., and the announced reduction in news print of $3.00 a ton by the International Paper Company. Some paper companies are reported as stating that $50 news print will be on the market by 1929 with $60 and $55 news print available for the last months of the current year. An "inevitable price cutting battle" is the comment of a number of authorities.

However, though this news is the subject of conversation in Chicago paper markets other papers go on in about the same manner as last week. Warm spring weather seems to have definitely settled in and buying is perhaps a bit more spirited in a number of grades. Chicago paper houses are already feeling the opportunity to increase sales in those grades of paper in demand for direct mail advertising. Some splendid sales efforts are being put forth by direct mail houses as a result of the passage of the favorable Postal Bill.

Wrapping paper continues to be in a favorable condition which bids fair to last for some time yet. In the fine paper grades demand is just fair with the market steady. Board continues excellent.

The Chicago Paper Association held a very important and successful meeting Tuesday evening, June 12, at the Bismarck Hotel. A feature of the occasion was the election and admittance to membership of five coarse paper houses in the city of Chicago as a result of the "get acquainted" meeting held a few weeks ago. The new members of the Chicago Paper Association are as follows: The Associated Paper Company, Atlas Paper Company, Consumers Paper Company, Ideal Paper Company and the National Paper Company.

Another important step taken in the meeting included the adoption of a resolution giving a committee the power to select and engage a secretary for the association who will also act as an auditor. Although the selection has not yet been made public, Leo Althaus, Inlander-Steindler Paper Company and president of the Chicago Paper Association, states that the committee has one man definitely in mind. The new secretary will conduct an educational campaign among the members including the adoption of a uniform method of accounting for member firms. The association considers this a very important step forward in its development.

The association also appointed a commitee to arrange for an outing some time in July of three or four days duration, to be spent in some choice spot in the North Woods. The next regular meeting of the progressive organization will be held at the Bismarck Hotel on June 26.

Dr. Stewart to Address Salesmen

The Chicago Division of the Salesmen's Association of the Paper Industry is looking ahead to two attractive events on its calendar. The first of these is to be at the noon luncheon, Monday, June 25, when Dr. George Craig Stewart, of St. Lukes, Evanston, Ill., will address the salesmen.

Dr. Stewart is chaplain of the national organization of the Salesmen's Association of the Paper Industry. He is a popular figure among the members of the association and a speaker of exceptional ability. The officers of the association have already notified members of the event by mail and a record crowd is expected to hear Dr. Stewart speak.

The other event is the second of the series of golf tournaments under the direction of Tom Donahue, of the Warren Manufacturing Company, who is chairman of the golf committee. The tournament will be held June 21 at the Long Beach Club at Michigan City, Indiana. Reports have it that Ray Russell, of the Marathon Paper Company, who is a member of the club, is to act as sort of a host to the crowd of salesmen. Advance notices on the tournament bear out the fact that it will be even more of a crowd getter than the first one held in May. One feature is prizes of many kind and for the best as well as the worst.

The June 25th meeting, at which Dr. Stewart will speak, will probably be the last held by the Salesmen's Association until Labor Day, provided that the enthusiasm of Dr. Stewart doesn't fire them to continue the meetings throughout the summer months.

News of the Trade

The Seaman Paper Company has recently mailed out a very attractive little folder describing the qualities of Middlesex Cloth-Lined paper manufactured by the Middlesex Products Company, of Boston. The folder is made of the paper described which is furnished in many colors and in either plain or embossed finish. The durability of the paper and its strength are popular features.

The Middlesex paper is said to be exceptionally fine cover stock for books used repeatedly such as savings bank books, rule books, sample books, catalogs, plans and specifications and reference books. A complete sample book is available to the trade.

Homer J. Buckley, of Buckley, Dement & Co., and president of the Direct Mail Advertisers Association, has been appointed to serve on a committee of the Chicago Better Business Bureau to draw up a set of rules of general practice and members of the bureau will be asked to sign the code when it is completed and adopted. The movement is directly in line with efforts being made to expurgate the business advertising world of unfair practices. Clean and honest descriptions of merchandise advertised, respect and cooperation for competitors and their avoidance of superlatives are among the first problems to be considered by the committee of which Mr. Buckley is a member.

Of interest to paper firms, particularly those engaged in the sale of news print, is the announcement of the sale of the *Chicago Journal* to S. E. Thomason and John Stewart Bryan, owners of the *Tampa Tribune*, and the *Greensboro, N. C. Record*. The new owners plan to continue publication in the Chicago evening field.

To Dedicate New Ranger School

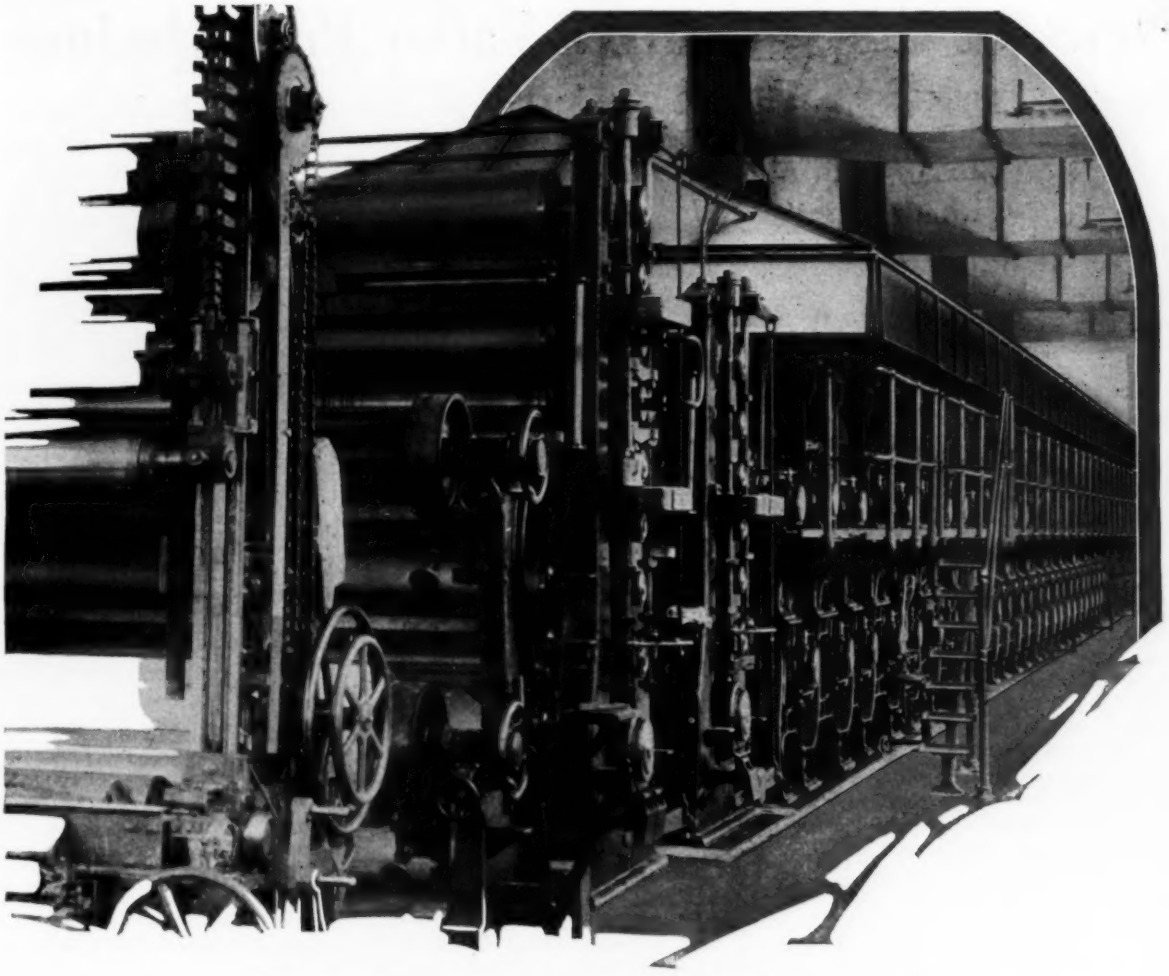
[FROM OUR REGULAR CORRESPONDENT]

SYRACUSE, N. Y.—Announcement is made by Dean Franklin Moon of the New York State College of Forestry at Syracuse University, that the dedication of the new building of the New York State Ranger School at Wanakena, in the Adirondacks, will be held August 24, 1928.

A conference on Ranger School Education will be held in the new building on August 25, immediately following the dedicatory exercises.

Invitations to participate in the two days' exercises have been extended to all interested in forestry and particularly to educators, foresters, federal and state officials. Detailed program, showing subjects to be discussed, and list of speakers who are to participate will be issued shortly.

The new building of the Ranger School was made possible by a special appropriation of the State and the building is conceded to mark the latest in facilities and equipment to train men in the special field of forestry.



Quality Board Produced at High Speed

THERE is as much manufacturing difference between high and low test board as there is between book and news. A fourdrinier running at high speed on quality book paper is slow when compared to a modern news machine. Speeds and productions of board machines cannot be justly compared unless the quality of both finished products is the same.

The illustration shows the Finishing End of one of the latest Downingtown Board Machines. This Cylinder Machine embodies our latest developments for assurance of consistent high speed and high production even on high test board.

Downingtown Machines (Cylinder and Fourdrinier) are built for ease of operation, low power requirements, freedom from breakdowns and long service life. Get our bid.

Our Products Meet Our Promises

DOWNINGTOWN
Manufacturing Company
Downingtown, Pa., U. S. A.

CAN. REP. FOR KILBERRY SUCTION ROLLS CHAS. WALMSLEY & CO. CANADA LTD., MONTREAL, QUE.

News of the Fox River Valley Paper Industry

Experiments With New Formula for De-Inking Newspapers Reported to be Highly Successful —Pulp Produced Said to be Perfect for Remaking Into Print Paper—Excavations Started On New Additions to Consolidated Book Paper Plant

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 18, 1928.—Discovery of another formula that will help to solve the problem of de-inking newspapers is announced at Ashland, Wis. William Hamilton, an old time lumber cruiser and log scaler, is given credit for the process. Mr. Hamilton heard of an offer of $20,000 to anyone who could produce a method of de-inking paper at a nominal cost. He recalled an old recipe used by his father in the old country for taking ink out of clothes. After locating the formula in an old memorandum book, he tried it out on five pounds of newspapers. They were washed out perfectly in no time at all at an expense of about two cents. The clean pulp thus produced, it is said, is practically perfect for remaking into print paper. The samples have been submitted to several mills and some further experiments are expected to be made.

Menasha Building Damaged by Fire

Fire losses were suffered last week by a two-hour fire at the Menasha Printing and Carton Company, of Menasha, Wis. Tanks of paraffin in a building next to the main plant caught fire from an unknown source, and gave the firemen a difficult task. Departments from nearby cities assisted in subduing the blaze before it reached any of the other buildings. A large quantity of "foamite" brought from a neighboring city was the principal means of extinguishing the blaze.

Theodore Yaley, superintendent of the refining department, was overcome by smoke but recovered after being given first aid.

Most of the interior of the building was ruined, and flames consumed a large portion of the roof. The structure otherwise was of fireproof construction. Officials have not announced any estimate of the loss. Operations of the main plant were not affected.

Pines, Power and Paper

. An interesting review of the origin and construction of the twin power plants of the Northern Electric Company, subsidiary of the Northern Paper Mills, of Green Bay, Wis., is told in a booklet just issued by the company, entitled, "Pines—Power—Paper." It is stated within its pages that the power site on the Menominee river near Amberg, Wis., has a fall of 57 feet in a nine mile stretch. Plants were built at both Chalk Hills and White Rapids to obviate the building of costly dikes so as to control the water. Prominent mention is made of the exceeding beauty of the buildings, both exterior and interior, even to the harmony of the colors used on the rooms and their equipment. Mention is also made, and shown by illustrations, of the lakes and summer resort made possible by the damming of these streams.

News of the Industry

In order to make room for a new bridge contemplated by the city, the Menasha Printing and Carton Company, of Menasha, Wis., recently sold one of its buildings to a contractor, to be moved off the property. The building was known as a gymnasium, and was found to be partly on some of the land wanted for the bridge which is to be built across Fox river.

Excavation has been started on the Consolidated Water Power and Paper Company, of Wisconsin Rapids, on the additions which are being made to the plant for the production of book paper. One of the city streets located at this point is being straightened at the same time. The work will occupy most of the summer and fall.

A gift of $50,000 to Carroll College, of Waukesha, Wis., has been made by S. F. Shattuck, secretary of the Kimberly-Clark Company, of Neenah, Wis. Mr. Shattuck has been a member of the board of trustees for a number of years. His gift will become part of an endowment fund which is being created by the college.

Announcement is made of the marriage last week of Miss Julia A. Neidle, of Green Bay, Wis., and John B. Kohl, of Juneau, Wis. The bride formerly was company nurse for the Northern Paper Mills, of Green Bay. Mr. Neidle is a sales representative of the Northern and is located in Boston, Mass.

The marriage of Nathan E. Burstein, of Neenah, Wis., and Miss Huddie Eisenberg, of Milwaukee, Wis., took place at Milwaukee last week. Mr. Burstein is office manager of the M. Burstein Company, of Neenah, paper stock dealers.

Arthur Boufard, instructor in the pulp and paper industry in schools of the Fox River Valley, is attending the summer sessions of the University of Wisconsin. Mr. Boufard is studying new phases of the courses. His home is at Appleton, Wis.

The Interlake Pulp and Paper Company, of Appleton, Wis., has greatly improved its recreation park and has opened it for public use. An old grandstand has been torn down and bleachers provided for spectators. An unattractive fence and sign boards also have been removed.

To Be Organizer in Canada

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., June 18, 1928.—It was announced at the headquarters of the International Brotherhood of Papermakers that A. F. McLeod, of Espanola, Ont., has been appointed to take charge of organization work in Canada and will be stationed at the branch headquarters maintained by the Brotherhood at Three Rivers, Quebec. The new organizer is one of the vice presidents of the Brotherhood. He will spend his entire time in building up existing locals and organizing new unions. The Canadian field has been without an organizer since last January when Arthur Huggins, who was in charge of the Three Rivers office, came to Albany to become secretary of the Brotherhood.

Frank P. Barry, first vice president of the Brotherhood, who is doing organization work in Northern New York, has succeeded in reorganizing the local union at Herrings, N. Y., it was stated here this week. The union at Herrings practically disbanded a number of years ago due to a change in ownership of the mill there.

Under the new wage and working agreement signed with Finch, Pruyn & Co., of Glens Falls, an increase of two cents an hour is granted to grinder men and stone sharpeners as well as slight increases to a few other employees. The wage scale in general, however, remains the same for a majority of the workers.

Cartons for Butter for Sanitary Reasons

The increased use of cartons for sanitary reasons in packing butter for retail sale is considered advisable by health officials in 106 or 117 cities, according to a special survey being made by the Bureau of Agricultural Economics, United States Department of Agriculture.

These officials declared that cartons lessen the likelihood of contamination both in the home and in the retail store, and are a means of checking the absorption of undesirable odors.

The department's inquiry is part of a general survey dealing with the merchandising of farm products by cooperative marketing organizations. Various merchandising methods are being studied with a view to emphasizing practices in the interests of both producers and consumers.

A Noble & Wood Bull Dog Jordan installation in mill of Congoleum-Nairn, Inc., Asbestos, Md.

Adding Cheer and Ease to Thousands of Homes

Today, housewives in every nook and cranny of the United States and in many foreign countries take pride in the colorful beauty and easy cleaning qualities of Congoleum Gold Seal Rugs. We, too, are proud that we have had a part in their fabrication. We quote from a letter from Congoleum-Nairn, Inc.

> *"In our felt plant at Asbestos, Maryland, we have installed two Noble & Wood Bull Dog Jordans, each driven by 150 HP a. c. motors through Morse Chains, and four Noble & Wood Bull Dog Jordans connected direct to 150 HP a. c. motors.*
>
> *These machines are used in the refining of rag stock before it is formed into dry felt for ultimate conversion into Congoleum Gold Seal Floor coverings. They have given eight years of hard and very satisfactory service and we expect to get from them the same sort of service for a good many more years."*

Noble & Wood Bull Dog Jordans are designed and built for the refinement of heavy stocks for roofing and floor felts and similar products. If your product is of heavy nature, we would welcome an opportunity to show you how well these jordans can serve you.

NOBLE & WOOD
MACHINE COMPANY
Hoosick Falls New York

New England Paper Market Continues Steady

Conditions in the Paper Board Industry Practically Unchanged, With Quotations Generally Holding to Schedule—Waste Paper Prices Rule Firm, Although Book Stock Is Easier—Bellows Falls Paper Mills Now Using Power Furnished by International

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 18, 1928.—Business with paper merchants is steady as a whole, with values remaining at about the same levels. Box board dealers report an unchanged market and little, if any, change in prices. Some of the smaller mills are said to be offering boards at somewhat lower figures, but the prevailing quotations in this market for filled news board and chip board are $47.50 and $45 respectively. Prices of old papers are generally firm, although book stock shows a somewhat easier tendency. Bagging, new and old domestic rags, and foreign rags are steady. In some quarters, at least, the demand has been slack during the week.

Bellows Falls Paper Mill Active

The Robertson Paper Company, Inc., Bellows Falls, Vt., manufacturers of waxed and oiled papers, have made a very good volume of sales up to the present time this year. In fact, business has been good for a long period with them. Their product is handled by jobbers in the United States and Canada and some is exported to Cuba. John E. Babbitt, president of the company, who is on an extended trip to Europe, is expected to return in August. Ray C. Sheldon is in charge at the plant.

Paper mills at Bellows Falls, Vt., are using power furnished by the International Hydro-Electric Company, which recently completed a $5,000,000 plant there, on the Connecticut River.

Esty Organization's New Agency

The Charles A. Esty Paper Company has taken the New England agency for Clydesdale Bond, Clydesdale Linen and Clydesdale Ledger and has mailed a sample book of each line throughout this territory. These companion papers, products of the Burkhardt Paper Company, Holyoke, Mass., have acquired a splendid reputation in this country for working qualities. The Clydesdale Bond, in white only, is carried in all regular sizes and weights with envelopes to match. The Clydesdale Linen is in white only, and the Clydesdale Ledger in white and buff, in all regular sizes and weights. All are stocked in the Boston warehouse.

News of the Trade

The Hollingsworth & Vose Company is manufacturing a new line, Pletex, in cream white, of No. 1 white rope stock. The annual outing of the Hollingsworth & Vose Company is to be held Saturday, June 23, at Nipmuc Park, Mendon, Mass.

Edgar Smalley, managing director of Edwin Butterworth & Company, Ltd., Manchester, England, who arrived on the *Scythia*, expects to be in this country a few weeks. He will make his headquarters at the office of E. Butterworth & Co., Inc., 136 Federal street.

Charles H. Wood, president of E. Butterworth & Co., Inc., is confined to the house by an affection of the right foot.

Flemish Book is a feature of the June number of "How," the house organ of Tileston & Hollingsworth, edited by A. V. Howland. Samples of this paper in Book Wove, white, India and gray are attached. Under the caption of "Kind to the Eyes," advantages of this antique stock for the reader are set forth.. The paper is used for books, pamphlets, house organs, folders, and some other work. "How" is printed on Flemish book and has the Milton Cover, in blue. The issue contains analyses of the June sheet of the Tileston & Hollingsworth 1928 calendar by James G. Clarke, of the Wood Clarke Press, of Boston, and Benjamin M. Chandler, of A. H. Wilson & Co., Inc., of Boston, before the Boston Club of Printing House Craftsmen.

The Carton Club of Boston went to the Vesper Country Club, Tyngsboro, Mass., for their annual outing Monday, June 11, and a good time "was had by all." About 80 were present. The sports included golf, baseball, quoits, mystery contest, clothes-pin contest, tape-slitting, and bowling on the green.

Big Development in Nova Scotia

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 18, 1928.—According to Ward C. Pitfield, vice-president and general manager of the Royal Securities Corporation, Montreal, the pulp and paper mill to be erected on the Mersey River at Liverpool, N. S., by the Killam interests and the consequent water power development there by the Nova Scotia Power Commission, will be one of the largest operations undertaken in the Maritime Provinces in many years.

Chief Engineer Johnston of the Power Commission stated that on the date required next year 20,000 horse power of electrical energy, available 24 hours a day, would be turned on and, if necessary, an additional 20,000 hourse power would be developed on the Mersey River at the same cost to meet a demand of 32,000 horse power necessary for the operation of four paper making machines.

It is estimated that the cost of the power development on the Mersey will run into $3,659,000, all the power plants to be automatically controlled from one base station. By early fall, it is said, some 1,200 men will be employed on the work of constructing the mill and developing the necessary power.

Expectations are that the power development will be completed by October 1st, 1929, and that the mill itself will be ready for production around January of the following year.

In connection with the above, it may be noted that Col. C. H. L. Jones, vice-president and manager of operations of the Spanish River Pulp and Paper Mills, Limited, which was recently merged with the Abitibi Pulp and Paper Company, has severed his connection with that concern, and will move shortly to Liverpool, N. S., where he will be associated with a new paper mill to be constructed there. Col. Jones, who has been a resident of the Sault for almost thirty years, going there to take a place with the Clergue interests, was commander of the 227th Battalion C.E.F.

New Sulphite Mill for British Columbia

Approximately $170,000 has been subscribed by Vancouver and New Westminster business men towards the proposed establlishment of a sulphite pulp mill on Poplar Island, B. C., according to Senator C. G. Heifner, who has been promoting the project. The remainder of the total cost of $600,000 will be available in the United States when the amount sought in this city is subscribed, Senator Heifner stated.

Tehnical Section's Summer Meeting

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 18, 1928.—This coming week-end members of the Technical Section of the Canadian Pulp and Paper Association are off for their annual summer meeting. They will embark on the S.S. Noronic at Sarnia, Ont., on Saturday afternoon and proceed up the Great Lakes to Port Arthur. There they will inspect the plants of the Great Lakes Paper Company, the Fort William Paper Company, the Thunder Bay Company and the Provincial Paper, Limited. Later they will take train to Kenora and visit the plant of the Kenora Paper Mills. On the return trip they will have the opportunity to visit the mill of the Spanish River Pulp and Paper Company and also the Spanish River Nursery.

LOOK SOUTH

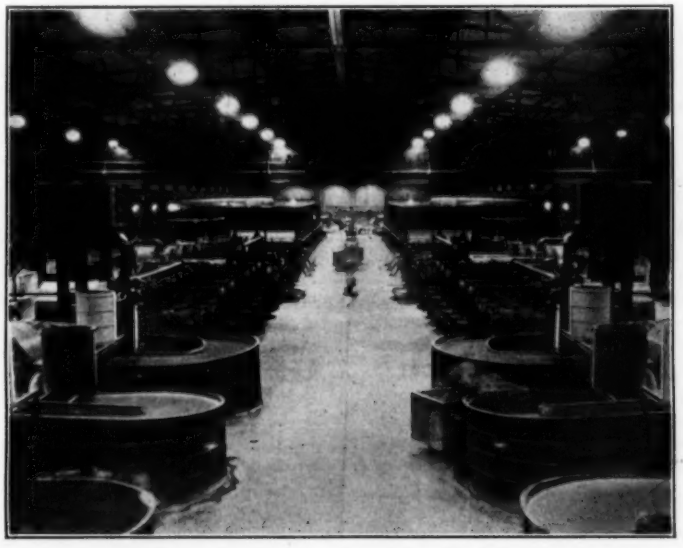
BASTROP, Louisiana: "Gator Hide Kraft," four big machines, and Dilts New Type beating engines.

CAMDEN, Arkansas: (International Paper Co.) two 212" Kraft Machines, and Dilts New Type Beaters.

HODGE, Louisiana: (Advance Bag Company) widest machine in the United States, 242" on kraft, and Dilts New Type Beaters.

TUSCALOOSA, Alabama: (E-Z Opener Bag Co.) 230" Kraft Machine and Dilts New Type Beaters.

"Your paper is made in your Beaters"



Dilts New Type Beaters in Camden mill ←

Dilts

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE - 15 PARK ROW - NEW YORK CITY

Boston Paper Trade Outing a Decided Success

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 18, 1928.—More than 100 members and guests of the Boston Paper Trade Association enjoyed a day of relaxation and sports at the June meeting and outing of the organization at the Charles River Country Club, Newton Centre, Mass., Tuesday, June 12. This is the third year in succession for the association to have the privileges of the Club, due to the hospitality of the Board of Governors, and in no small measure to the efforts of some of the members of the Boston Paper Trade Association, also members of the Club. Fair skies favored the party.

The sports program began at 9 a. m., with the golf tournament. A buffet luncheon was served in the locker room at 12:30 p. m. and a bountiful collation about 2:30 in the club house. The putting and driving contests were afternoon diversions.

New Members Elected

President Hubert L. Carter presided at the business meeting, held after the collation. New members elected were Winthrop L. Carter, of the Nashua Gummed and Coated Paper Company, proposed by W. J. McLellan; and Frederick H. Keep and Howard E. Chase, of William H. Claflin & Co., proposed by J. G. Swift; associate members, P. K. Mohun and W. H. Furbish. By a unanimous vote the by-laws were amended to include a clause permitting limited or special membership. The applicant is required to qualify under Article 12 of the by-laws.

The business meeting over, President Carter announced the winners of the prizes in the sports which took place in the morning, punctuating the distribution with happy and humorous remarks. He asked Mr. McLellan and Mr. Bement to stand by while he gave out the prizes. He noted that there was no band this year, but that the money which would have been used for that purpose was employed in the purchase of more numerous prizes. When the awards were made Mr. Bement spoke also in the lighter vein.

The winners were as follows: Bowling on the green—George N. Ernest, silver nut-dish; Mystery throwing contest—E. S. Clark, silver fruit dish; Clothes-pin contest—A. E. Fay, 7 out of 10, silver ash-tray; Quoits—W. M. McLellan, silver vegetable dish, and T. C. Walsh, silver steak platter. Mr. Ernest also had one of the highest scores.

Merchants Win Ball Game

The base-ball game between the Merchants and the Manufacturers was won by the merchants with a score of 13 to 8. This game was the subject of much comment. The Merchants realized their hoped-for sweet revenge on the Manufacturers for their treatment last year. President Carter felt that the game belonged to the umpire, W. J. McLellan. The umpire had his difficulties and a few of the players came nearly attempting to banish Mr. McLellan from the field for making some decisions which took courage. Nothing serious, however, happened, and after the game T. C. Casey, captain of the Merchants' team, received a box of cigars, the prize, and passed it around among the players for a harmonious smoke.

Golf Tournament Results

Golf tournament—Class A Handicap, 1st gross, Norman Harrower, 85, silver plate. 1st net, W. N. Stetson, Jr., 74, championship silver cup, won last year by Mr. Stetson, to become the permanent property of the one winning it three times. Mr. Stetson received also a silver vase, a permanent prize for this event. 2nd net, E. L. Cummings, 76, silver bowl. Class B. Handicap, 1st gross, L. E. Maglathlin, 95, silver trophy. 1st net, Graham Blandy, 2nd, 80, cocktail shaker; second net, John Vivian, silver vase. Guest prize, tied between J. G. Swift ,Jr., and E. L. Webb, silver trophy, won by Mr. Swift. Blind par, Howard L. Blake, silver card receiver. Blind tiger, E. F. Russ, silver trophy. Kickers' Handicap, tied between W. E. Porter, John Blackman, W. B. Freeman, and E. D. Bement. The name of W. B. Freeman was drawn for the prize.

In a contest between the Merchants and Manufacturers for the six in each division having the lowest scores, the Manufacturers won with the lowest combined score of 454, against 459 for the Merchants. The prizes were two golf balls each. The names and scores of the Manufacturers were: Maglathlin, 67, Taft, 75, Harrower, 77, Walker, 77, Wright, 78, Smith, 80. Merchants, Stetson, 74, Scranton, 75, Cummings, 76, Porter, 78, Blackman, 78, Munro, 78.

President Carter announced that 100 per cent of the players handed in their cards, which had never happened before at the outings of the Association. A vote of thanks was given John Vivian as the host at the Club.

In the afternoon the putting contest was won by John L. Munro, and the driving contest by H. F. Bigelow, a guest. The baseball committee was composed of William J. McLellan, chairman, T. C. Casey, Norman Harrower, Arthur E. Ham, T. C. Walsh. The golf committee, E. D. Bement, chairman, Howard Blake, Norman Harrower, W. E. Porter, Jr., C. S. Proctor, Wm. N. Stetson, Jr., Jesse G. Swift. F. Bendel Tracy is secretary of the Association.

Members and Guests Attending

Those present included Herbert L. Carter, Harold C. Upham, W. Gardner Very, William A. Merrill, Max Frank, George N. Ernest, W. V. Evans Hussey, A. A. Tanyane, W. J. Bagley, A. F. Fay, F. H. Keep, R. C. Sheldon, W. H. Hilton, N. O. Hayes, H. W. Gordon, Thos. Compton Walsh, E. S. Clark, J. L. Ham, A. L. Ham, R. P. Teck, E. B. Russ, H. A. Lindenberg, F. W. Main, T. Chas. Casey, H. B. Sargent, W. J. McLellan, T. H. Casey, L. A. Walden, A. M. Eaton, N. Harrower, M. K. Swift, H. F. Bigelow, H. E. Atterbury, J. G. Swift, J. G. Swift, Jr., H. D. Otto, John J. O'Brien, Charles T. Dale, R. H. Welch, Charles S. Proctor, Joseph D. Snell, J. B. Kelley, Hector M. Gordon, J. W. Vivian, W. W. Porter, Jr., L. E. Maglathlin, D. R. Smith, E. M. Hay, H. E. Lindquist, E. B. Sheaffer, E. R. Lyman, R. M. Stone, R. Q. Pease, C. Frederic Wellington, F. H. Merrill, E. D. Bement, Erving F. Lowe, E. A. Crowell, M. A. Park, E. G. Calkin, Adna C. Denison, R. Humes, R. D. W. Ewing, W. S. Clark, F. O. Johnson, H. C. Ham, F. H. Blackman, W. E. Hewitt, A. L. Mitchell, K. H. Ways, K. B. Fullerton, Jr., Fred B. Korbel, M. O. Byrne, Charles R. Bee, George L. Webb, H. R. Woodward, Walter P. Simonds, G. F. Russ, Percy D. Wells, W. B. Stevenson, R. B. Taft, H. E. Chase, E. R. Potter, E. L. Cummings, W. N. Stetson, Jr., Wm. B. Livermore, J. C. Coster, Arthur M. Burr, J. F. Blackman, J. D. Heffener, S. Walker, H. P. Griffin, M. B. Freeman, E. A. Estey, Geo. E. Hall, John E. A. King, P. N. Von Olker, H. L. Blake, W. D. Thompson, W. L. Muzzey, J. L. Munroe, Ray E. Drake, Fred A. Leahy, E. T. Stimpson, F. B. Tracy.

Dean Dana Honored

In recognition of his eminent service in forestry Syracuse University at its fifty-seventh Commencement conferred on Samuel Trask Dana, Dean of the School of Forestry and Conservation, University of Michigan, the degree of Doctor of Science.

Dean Dana received his A.B. from Bowdoin; in 1907 Yale University conferred upon him the degree of Master of Forestry. Chancellor Flint of Syracuse University in conferring the degree on Dean Dana used the following words: "You served your country with distinction as officer in the national forest service in the days of peace and later as captain in her army in the days of war. In the successive upward step of your career since, as then, you have manifested a high order of scientific knowledge, professional skill, research genius and administrative talents, as state forestry commissioner, director of research, dean and editor; for your demonstrated worthiness, Syracuse University confers upon you the degree of Doctor of Science."

TWO BIG REASONS for the VOITH INLET

Usually when production costs are lowered quality is sacrificed. Not so with the Voith Inlet. This equipment lowers production costs by its savings on many operation items—and at the same time improves the quality of the mill's paper. A number of mills have actually installed the Voith Inlet to make better paper.

Better paper and lower production cost are two big reasons today for the general acceptance of the Voith Inlet as necessary equipment in paper mills. The same reasons are back of the present operation of 238 Inlets.

This year the Voith Inlet is equipment mills find they cannot afford to do without. The Voith Inlet is helping them earn profits out of operating costs—and with an improved product.

Let us tell you more about the Voith Inlet. We'll send you upon request complete information. Write for it today.

VALLEY IRON WORKS CO.

Machinery for Paper and Pulp Mills

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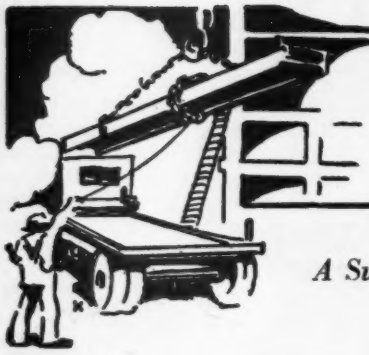


CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Holyoke, Mass.—The American Writing Paper Company has authorized an expansion and improvement program at its local mills, with installation of equipment for considerable increase in present output. Work will include interior alterations in different buildings for increased efficiency. A fund of about $500,000 is being arranged for the work.

Buffalo, N. Y.—The duPont Cellophane Company, Inc., River Road, manufacturer of special glazed paper for food products, etc., under patented process, has plans under way for construction of two new units at its local mill, including a three-story structure, to be used for general production, chemical service, etc., and one-story building on adjoining site. Entire expansion is reported to cost more than $200,000, with equipment. It is understood that general contract will be handled by the duPont Engineering Company, duPont Building, Wilmington, Del., an affiliated organization.

Brooklyn, N. Y.—The Manifold Supplies Company, Third avenue and Douglas street, manufacturer of paper products, etc., has plans in progress for the construction of a new three-story addition for increased capacity, including alterations and improvements in present unit, estimated to cost close to $50,000, with equipment. L. Laurentzen, 308 Livingston street, Brooklyn, is architect. A. L. Foster is president.

Los Angeles, Cal.—The Los Angeles Paper Manufacturing Company has filed plans for improvements at its plant at 1633 North San Pablo street, including installation of belt conveyor and other work for increased efficiency. Estimated cost not announced. General contract let to Richards-Neustadt Construction Company, W. M. Garland Building, Los Angeles.

Chicago, Ill.—The American Loose Leaf Manufacturing Company, manufacturer of paper goods, has removed to its new plant at 30th street and Cottage Grove avenue, where new building was recently completed. The structure is one-story, 197 x 210 feet., and represents an investment of approximately $150,000. Additional facilities will be provided at new location for increased output. Olsen & Urbain, 134 North LaSalle street, Chicago, were architects for the factory.

Lime Rock, Conn.—Dard Hunter's Paper Mill, Chillicothe, Ohio, manufacturer of hand-made papers, has concluded negotiations for the purchase of the plant of the former Barnum & Richardson Company, Lime Rock, heretofore used for foundry service. The new owner will remodel and improve, with installation of equipment for new branch mill. The property is situated on the Salmon Fell Kill, which will provide water supply for operation. Entire project, including property acquisition, is reported to cost more than $90,000.

Indianapolis, Ind.—The Century Paper Company, 301 Kentucky avenue, has leased the four-story and basement brick building at 207 South Meridian street, for a term of years, and will remove its present plant to new location. The leased structure provides about 32,000 square feet of space, and extensive facilities will be installed for storage and distributing service. It is proposed to complete removal early in July; alterations and improvements are now in progress. R. W. Fleischer is president.

Newark, N. J.—The C. G. Winans Company, 126-32 Frelinghuysen avenue, dealer in paper products, has acquired a four-story building, 80 x 105 feet, at 241-7 Ridgewood avenue, extending through to Badger avenue, heretofore owned by the American Food Company, and will occupy at an early date for a new storage and distributing plant. This acquisition will eliminate proposed rebuilding of former plant on Frelinghuysen avenue, recently destroyed by fire, with loss of about $100,000, including building and stock, as previously announced in these columns.

Appleton, Wis.—The proposed new plant unit at the mill of the Appleton Coated Paper Company, 1200 North Meade street, for which bids will soon be asked, will be one-story and basement, 107 x 240 feet, brick and steel. It is reported to cost approximately $125,000 with equipment. Structure will be fireproof with steel sash, insulation, etc. Lockwood, Greene & Co., 400 North Michigan avenue, Chicago, Ill., are architects and engineers.

Chicago, Ill.—The Bates Valve Bag Company, 8200 South Chicago avenue, manufacturer of automatic bag-filling and weighing machines, has authorized plans for a new one-story addition to its plant at Cap de la Madeleine, Que., operated in the name of the Bates Valve Bag Company, Ltd. It will be 40 x 200 feet, reported to cost in excess of $45,000, with equipment.

Newark, N. J.—The C. C. Winans Company, 126 Frelinghuysen avenue, paper goods, etc., plans the rebuilding of its storage warehouse and distributing plant destroyed by fire June 1, with loss reported at more than $100,000, including building and stock. The structure was 100 x 150 feet. The company will occupy temporary quarters pending reestablishment. F. W. Dusenberry is vice-president.

New Companies, Etc.

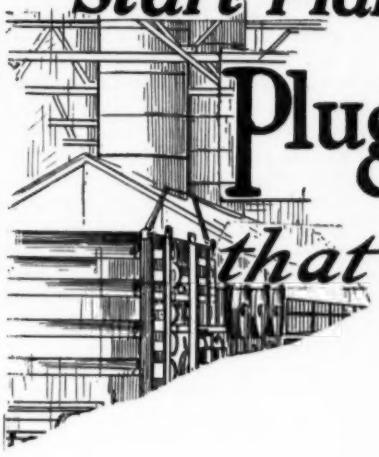
Boston, Mass.—The Waterproof Paper Company has been incorporated with capital of $150,000, to manufacture waterproofed and other processed papers. Albert T. Schenkelberger is president; and Robert C. Schwab, 19 Stetson street, Brookline, treasurer. Andrew E. Currier is also interested in the company.

Los Angeles, Cal.—The Pioneer Wrapper and Printing Company has been incorporated with capital of $50,000, to manufacture and deal in paper wrappers and other paper products. Incorporators: J. B. Baker and B. O. Hutchings. Representative: William L. Kuehn, 720 Bartlett Building, Los Angeles.

Chicago, Ill.—Great Lakes Bag Company, 1144 South Canal street, has been incorporated with capital of $30,000, to manufacture and deal in paper bags, etc. The incorporators are Benjamin Waxman, Louis Danziger and Benjamin Faerstein. Representative: J. S. Neale, 105 West Adams street, Chicago.

New York, N. Y.—The Continental Paper & Bag Corporation has been incorporated under Delaware laws with capital of $3,000,000. It is understood that the new company will take over and succeed to the mills and business of the Continental Paper & Bag Mills, Inc., 1 Pershing Square, New York.

Start Plans Now To~



Plug Those Leaks that Piled up Costs!

A lot of mill managers know now that one of the most costly leaks during the past winter was needed heat flowing to the outside air in vapor. Heat that cost money to produce—all wasted.

Be Prepared for Next Winter!

Briner Economizers

LICENSED UNDER PATENTS OF E A BRINER AND JOHN E ALEXANDER

will plug this leak of needed heat. They will reclaim the heat from the waste vapor, and utilize it to heat the incoming air supply. Saving this heat will save your steam and cut operating costs. If you know what Briner Economizers can do — let us start now to plan your installation. If you want records of results being secured—write us. But start preparing for next winter now.

A few months from now it will be difficult to complete all installations desired before the cold weather sets in.

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NEW BIRKS BLDG., MONTREAL

ROSS SYSTEMS

HEATING—VENTILATING—DRYING

Obituary

Maurice E. Whalen

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., June 19, 1928.—Maurice E. Whalen, 72, superintendent of the Nonotuck Division of the American Writing Paper Company, died Friday morning at his home, 142 Elm street, after a short illness. He was widely known in the paper industry having held positions in several mills. He entered the business when only 14 and was assistant to his father when only 15 in the beaterroom of S. D. Warren & Co. His father served 52 years in charge of beaters and washers, in this mill. He was then advanced to back tender on a paper machine and after backtending for a time was given charge of a machine when only 19 years old.

He then came to Holyoke to the Winona Paper Company, now the George C. Gill mill, as machine tender and after a year was promoted to be boss machine tender remaining in that capacity for 10 years. During this time he installed two machines, a 96 inch machine and a 66 inch machine. He left then to work in the Nonotuck Division and when the Syms & Dudley Paper Company was taken over by the American Writing Paper Company was made boss machine tender there. Here he remained for 12 years and then went to the Grove Paper Company, now the Holden Paper Company, as superintendent, where he remained five years. He then went to the Sterling Paper Company at Hamilton, Ohio, coming back to the Nonotuck mill in Holyoke as superintendent in 1914, and holding that position ever since.

Mr. Whalen was a member of Holyoke Council Knights of Columbus and the Connecticut Valley District of the American Pulp and Paper Mill Superintendents association. In earlier days he was a member of the fire department. Besides his wife he leaves two daughters, Mrs. William A. Morris of Peekskill, N. Y., and Elizabeth, at home; two sons, Maurice, member of the Holyoke Fire Department, and John, at the Whiting Paper Company; four brothers, Edward, David, Thomas, and John, of Boston, and one sister, Mrs. Patrick Tulley, of Beachmont. The funeral was held Monday morning with burial in St. Mary's cemetery, Northampton.

John Duers

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., June 18, 1928.—John Duers, 67, for many years a resident of this village and a prominent member of the papermaking industry of this section, died suddenly early this week in Hopewell, Va., where he has been making his home of late. News of his death was received here with regret by his former associates at the Union Bag and Paper Corporation and his many other friends. Mr. Duers was for a number of years associated with the Union Bag and Paper Corporation as superintendent of the local plant. He was a member of Sandy Hill Lodge of Masons and the Knights Templar.

The body was brought from Virginia to Hudson Falls for burial in Union Cemetery. The survivors include the widow, one son and a daughter.

John A. Sherman

[FROM OUR REGULAR CORRESPONDENT]

WORCESTER, Mass., June 18, 1928.—John A. Sherman, 76, prominent Worcester manufacturer and inventor, long identified with the manufacture of envelopes and oil burners, whose inventions contributed much to the success of these two industries throughout the country, died Wednesday, June 13, in his home here. Mr. Sherman up to 1920 was for more than twenty years President of the Sherman Envelope Company, which he founded.

At the time of his death he was President of the Sherman Oil Burning system. Earlier in life he had been superintendent several years of the Whitcomb Envelope Company, now of the United States Envelope Company.

Cost and Technical Men to Meet at Kalamazoo

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., June 18, 1928.—The Cost Association of the Paper Industry, Kalamazoo Valley Division, and the Paper Technologists Club of Kalamazoo, will on Friday and Saturday, June 22 and 23, be hosts to the Interstate meeting in this city. This gathering, open to the mills of Michigan, Ohio, Indiana, Illinois and Wisconsin, promises to rival in importance and interest the usual national conventions of those branches of the paper industry. H. C. Bradford, chairman of the local executive committee says that at least 125 to 150 will be present.

The program will run through two days. Friday morning there will be registration, with a joint session immediately following lunch. E. G. Milham, president of the local Cost association, will preside. F. C. Stamm will discuss "Power Costs."

At 2:30 to 5 inclusive there will be sectional meetings. N. J. Cowie, vice president of the Cost association, will act as chairman of the cost unit. George K. Ferguson will speak on "What Percentage Should be Added for Profit." A representative of the International Accountants Society will speak on "Standard Costs and Budget Control."

The Technical section will have Ivar Lundbeck, of the Lee Paper Company as chairman. Two papers to be offered are "Co-Relation of Tests with Mill Operation," Allen Abrams and "Interesting Technical Problems," R. G. MacDonald. There will be an opening discussion on "Testing Pulp for Strength."

In the evening there will be an informal banquet at the Park-American with Dr. Allen Hoben of Kalamazoo College as the principle speaker. A. C. Dreshfield of the Western Paper Makers Chemical Company will act as toastmaster.

Saturday morning will be devoted to a visit to the mills in the valley. T. J. Burke, secretary of the Cost Association of the Fulp Industries will speak at the noon hour luncheon.

Two sectional meetings will occupy the afternoon. The cost accountants will hear three papers, "Time Study," H. S. Davy; "Bonus Systems," J. G. Wood and "Cost Data for Executives," A. W. Lewis. The technical division will also have three papers, "The Use and Detection of Formaldehyde in Paper," Dr. Thomas Bentzen; "A Mill Control System," M. A. Krimmel and "Jordans and Beaters," G. S. Brazeau.

At the evening dinner session Ivar Lundbeck will preside and R. A. Hayward, general manager of the Kalamazoo Vegetable Parchment Company will speak on "Opportunities in Cost and Technical Work."

The committee in charge of arrangements for this interstate meeting is H. C. Bradford, Rex Paper Company; C. B. Barton Jr., Michigan Paper Company; A. C. Dreshfield, Western Paper Makers Chemical Paper Company; Ivar Lundbeck, Lee Paper Company and E. F. Whittington, Standard Paper Company.

Norwegian Ground Wood Market Firm

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 20, 1928.—According to reports the Norwegian market for ground wood is on the whole firm with a tendency toward better market conditions. Present sales are small but the outlook is better.

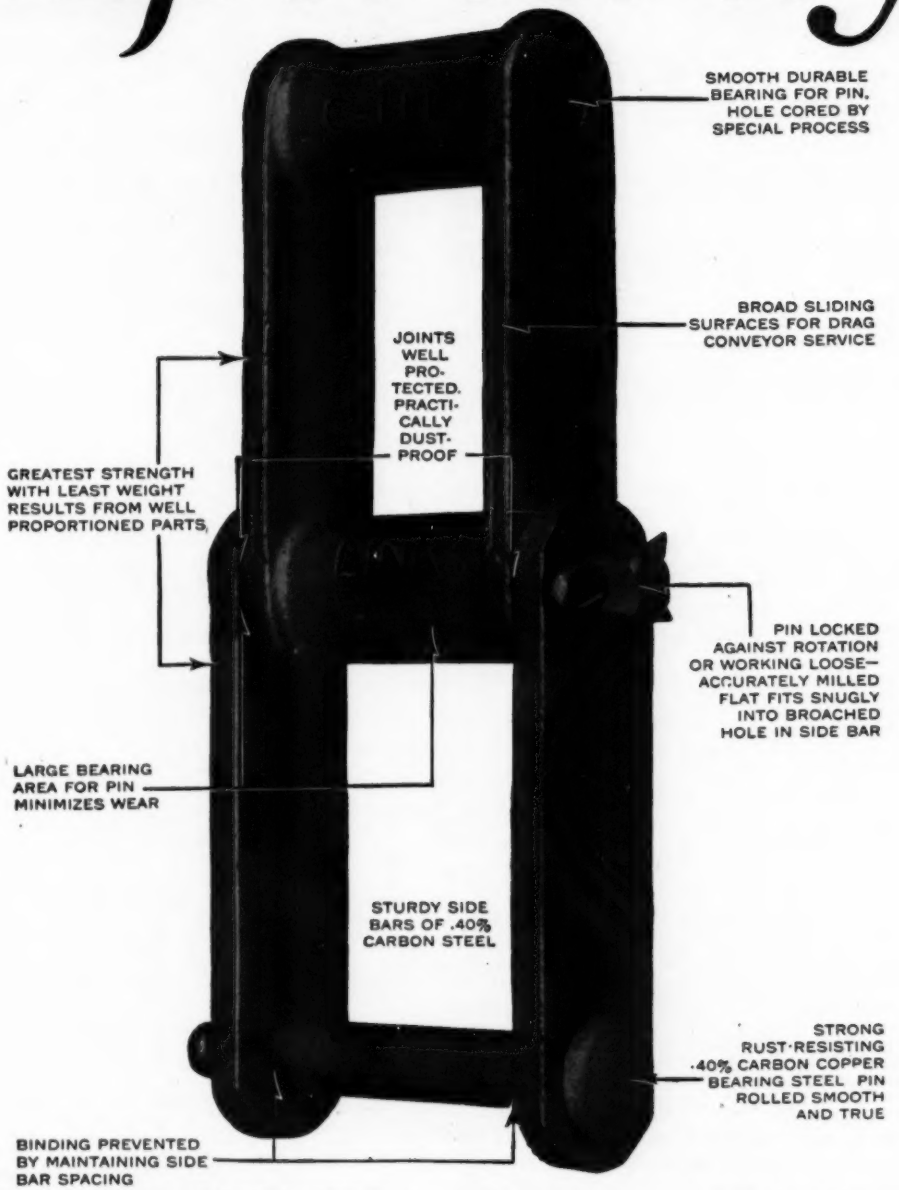
The Association of Scandinavian and Finnish producers of mechanical pulp have had a meeting at Stockholm, where negotiations regarding the keeping down of production have been under way. The chemical market is also better, although Swedish mills since the cessation of labor troubles in that country are now dominating the market so far as active business is concerned.

Paper Price Index for May

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 20, 1928.—The May wholesale price index numerals for paper and pulp was 89.8 compared with 90.2 for April and 92.2 for May of last year taking 1926 at 100 according to the Bureau of Labor Statistics, Department of Labor.

Superiority


SMOOTH DURABLE BEARING FOR PIN, HOLE CORED BY SPECIAL PROCESS
BROAD SLIDING SURFACES FOR DRAG CONVEYOR SERVICE
JOINTS WELL PRO-TECTED. PRACTI-CALLY DUST-PROOF
GREATEST STRENGTH WITH LEAST WEIGHT RESULTS FROM WELL PROPORTIONED PARTS
PIN LOCKED AGAINST ROTATION OR WORKING LOOSE—ACCURATELY MILLED FLAT FITS SNUGLY INTO BROACHED HOLE IN SIDE BAR
LARGE BEARING AREA FOR PIN MINIMIZES WEAR
STURDY SIDE BARS OF .40% CARBON STEEL
STRONG RUST-RESISTING .40% CARBON COPPER BEARING STEEL PIN ROLLED SMOOTH AND TRUE
BINDING PREVENTED BY MAINTAINING SIDE BAR SPACING

WHEN you know how Link-Belt "C" Class Combination Chain is designed and built, you will appreciate why it has won such wide recognition as the standard chain for pulp-wood conveyors.

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LINK-BELT

New York Trade Jottings

Samuel C. Knode, manager of the New York office of the Albemarle Paper Manufacturing Company, has returned to the city after a tour of Canada and Northern New York.

* * *

The Great Atlantic Paper Company, of 77-79 Wooster street, New York, have added the following new lines to their stock of standard mill brands: No. 1 M.F. Book, No. 1 Super, Bristols, White Index and Ocean View Bond (water marked).

* * *

The Johns-Manville Corporation, New York, and subsidiaries, report for the first quarter of 1928 shows a gross sales of $10,144,156, net receipts of $879,625 after expenses, and net income of $772,705 after taxes in the three months to March 31. As this is the first statement of its kind to be issued, no comparisons can be made with last year. The quarterly statements will be made regularly hereafter.

* * *

Another excellent attendance gathered at the regular weekly meeting and luncheon of the Salesmen's Association of the Paper Industry, held in the Canadian Club last Monday. Arthur S. Allen gave a second interesting and instructive address on Color in response to requests from a number of members who attended the previous Color luncheon held a few weeks ago. He picked up the topic at the point at which he closed his previous lecture and presented numerous facts of direct interest to the mill salesman. Mr. Allen again brought some interesting exhibits to illustrate his talk.

* * *

At a recent special meeting of the board of directors of the Central National Bank of the City of New York of which D. Samuel Gottesman is chairman of the board, it was decided to increase the capital of the bank from $2,000,000.00 represented by 20,000 shares of par value of $100.00 each to $2,500,000.00 represented by 25,000 shares all par value of $100.00 each and that such increased shares be offered to the shareholders pro rata at $175.00 per share. This amounts to giving the stockholders a bonus of approximately $350,000.00, based on the current market price of the stock. The great progress the bank is making is the reason for this increase in their capital stock. At the present time the total resources of the bank are over $18,000,000.00 with deposits of over $12,000,000.00. The bank has two branches which have been in existence for some time and has just completed the details relative to opening several additional branches in desirable locations. D. Samuel Gottesman is president of M. Gottesman & Co., Inc., New York, who have been affiliated with the pulp and paper industry since 1886. Mr. Gottesman is also president of the Central National Corporation, a securities and investment corporation, which is closely affiliated with the interests connected with the Central National Bank of the City of New York.

To Appraise Assets of Berkshire Hills Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

PITTSFIELD, Mass., June 5, 1928.—Tracy W. Omar of Boston has been appointed appraiser of assets of the Berkshire Hills Paper Company by Judge William A. Burns of the Superior Court. Attorney Henry L. Harrington is receiver and Mr. Omar is directed to file a report with the court on or before June 6. Mr. Harrington filed a petition for a license to sell to himself the assets for $20,000 which was agreed to by the First National Bank of Boston providing the appraiser found that to be a fair price.

H. R. Harrigan Returns to Work

H. R. Harrigan, of the District of Columbia Paper Manufacturing Company, has returned to his work after a period of illness.

Century Paper Co. Leases Building

INDIANAPOLIS, Ind., June 18, 1928.—Announcement has been made of the lease of the four-story building and basement at 207 South Meridian street, Indianapolis, to the Century Paper Company for a term of 25 years. The Century Paper Company now is located at 301 Kentucky avenue, but will move to the new location at once. The amount involved in the transaction was not made public.

The Century company has been in business six years. The business is exclusively the wholesaling of fine papers to the printing trade in all parts of Indiana and Illinois. During the six years the business has grown to a point which makes it necessary to enlarge the warehouse and shipping facilities.

With the acquisition of new quarters, the company will have a total floor space of about 32,000 square feet. The business office will be located on part of the first floor with the remainder being used for warehousing and shipping. One of the office features will be a display room where there will be exhibited interesting for the service of prints and advertisers. This room also will be available to printers and their customers for conferences.

The inside of the building is being refinished with suitable office equipment and it is expected the company will occupy it by July 1 or shortly thereafter. Officials of the company are Robert W. Fleischer, president; W. N. Gillett, vice president; H. A. Rowley, secretary and treasurer, and J. R. McCoy, assistant treasurer and general manager.

Forests in the Prairie Provinces

MONTREAL, Que., June 18, 1926.—The surprising statement is made, in a pamphlet issued by the Canadian Pacific Railway Company, that the forests of the Provinces of Manitoba, Saskatchewan and Alberta are so enormous that they cover 39 per cent of the total area.

The total Manitoba stand of softwood saw timber is placed at 2,335,000,000 feet, board measure, made up as follows:

	Feet, B.M.
Spruce	2,000,000,000
Jackpine	250,000,000
Balsam	75,000,000
Other softwood	10,000,000

Hardwoods are estimated at 105,000,000 feet B.M.

In Saskatchewan the softwood stand is given as:

	Feet, B.M.
Spruce	2,773,000,000
Jackpine	1,941,000,000
Balsam	100,000,000
Other softwood	50,000,000

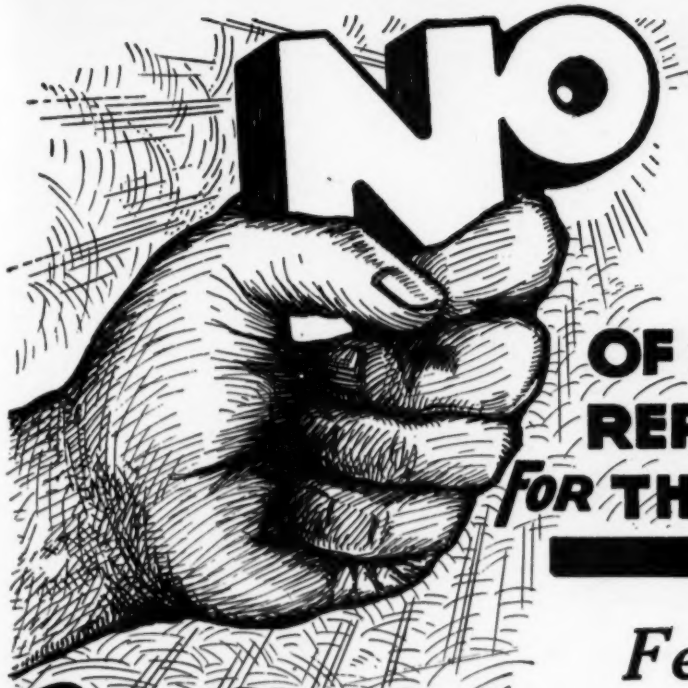
Hardwoods are estimated at 4,000,000,000 feet B.M.

In Alberta the similar totals are reached as:

	Feet, B.M.
Spruce	8,500,000,000
Jackpine	2,500,000,000
Balsam	200,000,000
Douglas fir, larch, etc.	500,000,000

New Napkin Machine

GREEN BAY, Wis., June 18, 1928.—The Paper Converting Machine Company is building a new high speed rotary embossing quarterfold napkin machine which has a number of unusual features. It is quaranteed to fold 400 napkins per minute. Its special features include smooth, positive shear cut, automatic roll guides, Timken roll guides, double spring pressure arrangement and automatic counting and marking. It is compact, requiring only 6 x 8 feet of floor space and is very simple and easy to operate. There is no trouble from static. The machine is made with one, two or three color printing attachments, if desired, or extra em-



No 9

OF A SERIES OF 12 REPORTS - WATCH FOR THEM EACH MONTH

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A·C·NIELSEN COMPANY

Data on "DAYTONS"

Not claims, but FACTS carefully checked by experts, and duly sworn to.

Fewer Beaters and More Paper

Economies Soon Pay Rebuilding Cost

Clifton Paper Mills—Old style beaters rebuilt and production at once increased 50%. Savings in power, increased production, with other economies, paid cost of rebuilding in few months.

Kalamazoo Vegetable Parchment Co.—Old style beaters rebuilt and purchase of additional old style beaters avoided. Production increased 14.3%. Various economies, with production gain, soon paid for entire rebuilding job.

Champion Coated Paper Co.—Initial installation 16 rebuilt beaters outdo original 32 old style. Production increased 24%. Economies, including production gain, returned rebuilding charge in 9 months. Total installation to date 40 High Speed Daytons.

Emerson Carey Fiber Products Co.—Old style beaters rebuilt and output practically doubled. Power saving alone will pay 60% of rebuilding cost.

Standard Paper Mfg. Co.—Old style beaters rebuilt and a capacity gain of 115% effected. Rebuilding cost quickly returned.

Lincoln Paper Mills—Old style beaters rebuilt and capacity increased 33-1/3%. Beating time cut less than half. Savings soon paid for making the change.

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Dayton Beaters

PAPER TRADE JOURNAL
ESTABLISHED 1872

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THE SITUATION IN NEWS PRINT

With news print stocks dropping in value on the Montreal Stock Exchange, and with all kinds of rumors floating around regarding cut-throat competition on the part of news print producers, it would appear that this section of the Canadian pulp and paper industry is approaching a crisis, and there is as yet no indication of the outcome. It is now admitted that the tremendous speculative movement which took place in the news print stocks would have been unwarranted even if a keenly competitive selling policy had not been resumed. There are many who have not yet abandoned the hope that the big interests in the industry will yet be able to apply a corrective to the present situation.

It is recognized that with nearly all the most powerful financial interests in Canada having heavy stakes in the industry, a real price war cannot but prove disastrous to the weaker units, and that unless some more moderate course is found many of the smaller units will find their way into the larger consolidations at prices a great deal lower than might have been the case during the past couple of years. It is openly stated, however, that there are half a dozen men in the industry who, if they were to get together could easily solve the situation by restricting the output to actual consumption and distributing orders in strict ratio to capacity. So far there are no signs that such a course will be adopted; but it is recognized that the present "free for all" attitude cannot continue indefinitely in view of the continual bringing into production of new units.

A new development in the situation is the concern expressed by the Hon. L. A. Taschereau, premier of Quebec Province. He referred to the news print situation at the annual convention of the Canadian Manufacturers Association in Quebec a few days ago, when he asked if "the present flurry" in the paper industry was due to overproduction. He indicated that he thought it was, adding: "The paper interests must agree among themselves. They must not cut prices. The Province of Quebec, on its part, will take steps to protect present paper industries established in the Province, and will discourage the establishment of new paper industries. Quebec would rather have one prosperous industry than two in difficulties. But we need the co-operation of the sister Province of Ontario so that evils not wanted in Quebec may not find a resting place there."

Meanwhile the closing down of the Fort William Paper Company's plant at Fort William, where about 300 men are employed is taken as indication that the Abitibi Company intends to restrict output until the situation clarifies. The Fort William Company is a subsidiary of the Spanish River Pulp and Paper Mills, recently taken over by Abitibi.

THE POWER SHOW

Probably one of the greatest problems to the sales executive of power equipment is that of getting a mental picture of his product before his prospects. The salesman depending on photos and written descriptions faces a difficult situation in explaining grades, quality and actual demonstration that often accompany visual demonstration.

One of the best answers to such a problem is the Seventh National Exposition of Power and Mechanical Engineering to be held December 3 to 8, 1928, at the Grand Central Palace during the annual conventions of the American Society of Mechanical Engineers. The members of these organizations come from all parts of the world to compare ideas and problems and to visualize the latest developments in power and mechanical engineering achievements.

In no place in the world is there such a collection of Engineering ability as is annually assembled for this meeting. Visitors to the Power Show during the past eight years have increased from a few hundred in attendance to a registered visitors' list of twenty-five thousand and a general attendance of one hundred thousand for the week. The careful study given to the five hundred exhibits last year proved conclusively the value of visual demonstration from a sales standpoint. This realization is apparent from the renewals this year by the exhibitors and once more the four floors of the Grand Central Palace will be divided into booths containing the various types of Mechanical Equipment that make American Industry the wonder of the age.

The importance of such exposition is proven by the fact that of the twenty-five thousand registered visitors over six thousand were officers of corporations or plant owners and sales executives, five thousand were engineers and designers, four thousand four hundred were technical men bent on visualizing the latest achievements that were on display.

Some of the large universities include a tour of the exposition in their student courses and credit all students for such visits.

This exposition will be the thoroughly rounded exhibition of all manner of mechanical and engineering equipment such as it has been in the past. The Power Section will include displays of boilers, stokers, grates, oil burners, fans, blowers, pipe, valves, and fittings for single or central station work with instruments of precision and control.

The heating and ventilating exhibit this year is more clearly defined than ever and the development of many new features is expected. The problems of the heating and ventilating engineer have kept pace with the progress in the kindred engineering fields.

This year the exposition will have a particularly interesting exhibit of belting and the related transmissions covering the entire field, the materials handling section with the actual demonstration of various types of industrial trucks, hoists, cranes, winches, conveyors, etc., and the tool and machine tool section with a complete exhibit of lubricants, lubricators, etc.

Each and every manufacturer whose sales depend on the selection or recommendation of engineers and industrial executives can realize what such an exposition means to American industry. An extract from an editorial in "Power" states, "The Power Show is a tangible proof that the manufacturers of power plant machinery and allied equipment have done their part. Everything that a power plant or an industry could possibly need for up-to-date efficient operation in the power line is available and each item is available from many sources. The last vestige of excuse for high power costs or inefficient methods in the Power Plant of today has disappeared entirely, regardless of whether the plant be large or small. The manufacturers as witnessed by their exhibits have met each suggestion and have provided for every possibility. Further responsibility rests squarely upon the Power Plant operator and owner."

This extract shows what a profound value is placed upon such an exposition and heartily supports the efforts made by the manufacturers to make the show one of international interest and importance.

Make Survey of Cigarette Paper Tariff

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 20, 1928.—Work is going ahead at the Tariff Commission on the survey being made at the request of the French government on the cigarette paper tariff. Work has been held up, however, on the request of the same government, as to parchment and onionskin paper.

In the original French note that government refers to "sulphurized" paper. Officials of the Tariff Commission are at sea as to whether this is meant to be vegetable parchment, imitation parchment, or parchment paper. Similarly the French government asked for a reduction in duty on onionskin paper under paragraph 1304 of the Tariff Act of 1922. Onionskin is specifically provided for under paragraph 1307 of the Act.

While it had been originally intended to ask the French government for further details in this regard it is understood now that the plan is to take the matter up with the French Commercial Attache. This may obviate any long delay. At any rate, no investigation will be taken up on either "sulphurized" or onionskin paper until the Commission knows exactly what is meant by the terms used in the note.

It has been pointed out that should duties be reduced as desired by the French government, the same reduction would be effective on similar shipments from all other countries, under the terms of the existing commercial treaties.

Depletion of Canadian Forest

MONTREAL, Que., June 18, 1928.—In a report issued by the Dominion Bureau of Statistics, it is stated that Canada's annual consumption of standing timber for use amounts to about 2,900,000,000 cubic feet. At a very low estimate, fire destroys annually about 700,000,000 cubic feet of merchantable timber and the young growth on 1,400,000 acres of various ages, representing the annual growth of 25 to 30 million acres. The destruction occasioned by the spruce bud-worm averages 1,345,000,000 cubic feet per annum, besides the injury from bark-beetles and other insects. The loss due to fungi and windfall is not known, but is undoubtedly large. It may be safely estimated that the forests of Canada are being depleted at the rate of upwards of 5,000,000,000 cubic feet per annum. With about 534,000,000 acres of young, growing forest, an average annual increment of 10 cubic feet per acre would cover this depletion, but in view of the destruction of young growth which occurs and the deterioration of the forests and the soil, caused by repeated fires, there is little hope that this increment is being produced at the present time throughout Canada, although particular areas are producing greatly in excess of this quantity.

Paper Production for April

Total production of all grades of paper in April was 581,000 tons as compared with 607,017 tons in March and 557,850 tons in February, according to reports to the American Paper and Pulp Association from members and cooperating organizations. Total production for the first four months of 1928 was 2,306,511 tons as compared with 2,275,969 tons in 1927.

Although the total April production was about 4 per cent lower than that of March, the daily average production for April was 3 per cent greater than in March. The lower total was the result of two less working days in April. The daily average production in April, 1928, was about 5 per cent greater than in April, 1927.

The total production of all grades of wood pulp was 216,697 tons as compared with 222,449 tons in March and 204,365 tons in February. The April daily average production of wood pulp was about 5 per cent higher than the daily average for March, but the two less working days brought the total production below March.

Pulp production for the first four months in 1928 totaled 853,630 tons as compared with 886,525 tons for the first four months of 1927.

COMPARATIVE REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF APRIL, 1928

Grade	Production, tons	Shipments, tons	Stocks on hand end of month—tons
News print	117,553	118,453	33,734
Book	93,047	87,218	53,777
Paperboard	219,430	217,913	41,495
Wrapping	52,813	51,715	53,894
Bag	11,544	11,558	10,349
Fine	32,230	30,051	42,993
Tissue	13,200	12,208	12,439
Hanging	5,177	4,839	2,798
Felts and Building	11,018	11,162	2,024
Other Grades	24,988	23,194	18,818
Total—All Grades—April..	581,000	568,311	272,321
March..	607,017	606,428	260,917
Four Months, 1928	2,306,511	2,276,621	272,321

COMPARATIVE REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF APRIL, 1928

Grade	Production, tons	Used, tons	Shipped, tons	Stocks on hand end of month, tons
Ground wood pulp	97,426	83,965	2,567	113,063
Sulphite news grade	36,871	35,017	2,837	9,338
Sulphite bleached	24,594	21,808	2,751	2,974
Sulphite easy bleaching	3,260	3,228	174	1,753
Sulphite Mitscherlich	6,401	5,723	885	1,100
Sulphate pulp	24,911	19,634	4,675	5,893
Soda pulp	23,198	14,924	8,265	4,395
Pulp—Other grades	36	16	27	134
Total—All Grades—April	216,697	184,315	22,181	138,650
March	222,449	200,123	23,669	127,168
Four Months, 1928	853,630	755,149	89,318	138,650

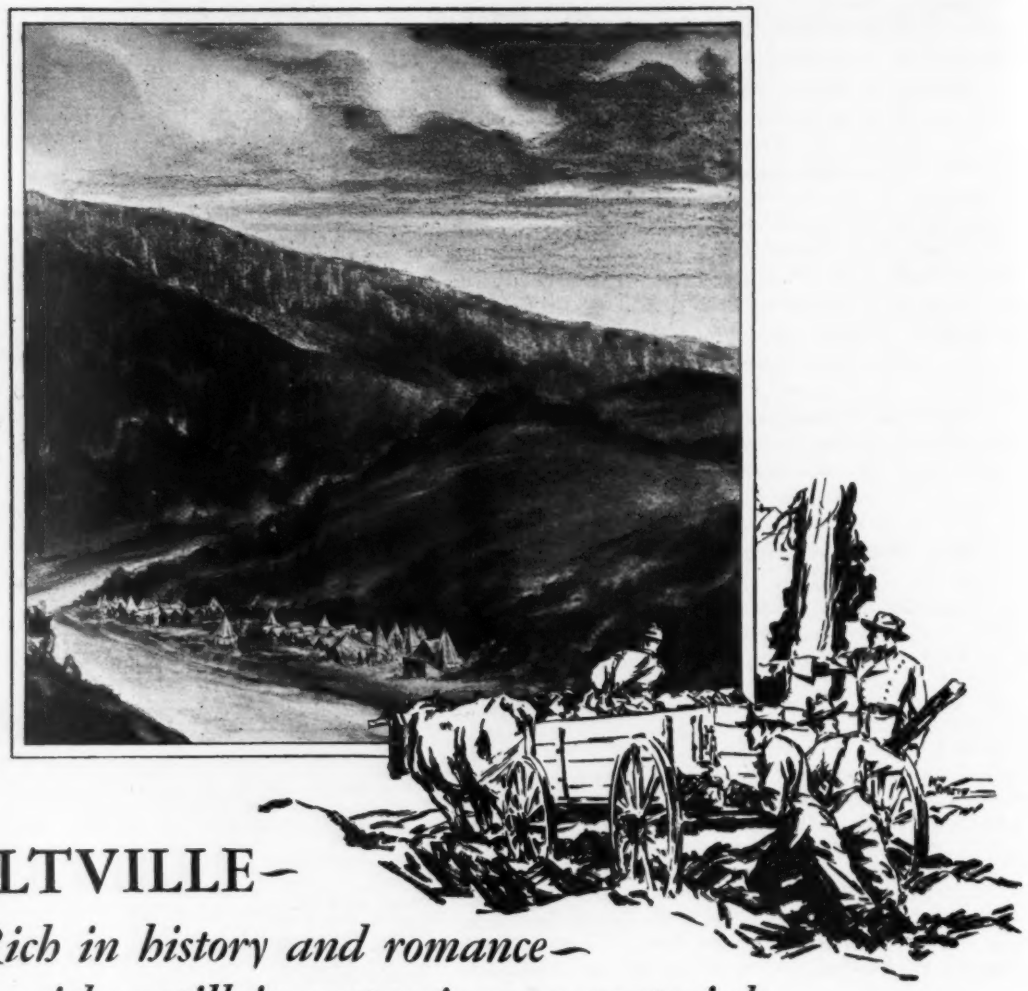
To Rush Work on E. Z. Opener Mill

A press despatch from Tuscaloosa, Ala., says that the "contract for the erection of the plant of the E-Z Opener Bag company here has been closed with C. A. D. Bayley, general contractor of Atlanta, Ga., and New Orleans, and the buildings must be under roof by September 1, it was announced here this morning following receipt of a telegram from R. E. Hartman general manager. The contract for the steel work to enter into the construction of the buildings goes to the Ingalls Iron Works of Birmingham, the message adds.

" Work will begin at once, and must proceed with the utmost speed," says Mr. Hartman.

"All preparations have been made for the beginning of actual construction on the paper mill site between Riverview and Holt. In the past weeks concrete foundations have been laid and railroad switches have been placed in order that building material may be handled as rapidly as it arrives.

"It was announced a short time ago that actual operation of the plant was to be expected by January 1, 1929. Mr. Hartman has been a frequent visitor to Tuscaloosa, and he is expected here within the next few days to make this city his home while the erection of the new plant is in progress."



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AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Washing Paper. C. B. Peck. U. S. pat. 1,631,757, June 7, 1927). A thin sheet of vegetable parchment, having the characteristic of flexibility when wet and sufficiently tough and tenacious to prevent tearing or surface disintegration when used for scrubbing, is impregnated with soap.—A. P.-C.

Apparatus for Saturating Material. L. Kirschbraun and C. E. Rahr assignors to the Flinkote Co. U. S. pat. 1,631,826 June 7, 1927. The hot impregnating liquid is contained in an air tight tank in which it can be placed under pressure. A rocking shaft passes through the tank and carries arms at each end of which rotatable spools which are driven by the rocking of the shaft and which can oscillate in the tanks.—A. P.-C.

Process and Apparatus for Making Roofing Elements. T. Robinson. U. S. pat. 1,640,906, (Aug. 30, 1927). The roofing felt is folded longitudinally, the two portions are brought close together to form a narrow trough into which is introduced a plastic filling material. The filled sheet is then pressed and cut into suitable lengths.—A. P.-C.

Waterproof Roofing Elements and Process of Making Same. L. Kirschbraun. U. S. pat. 1,644,652, Oct. 4, 1927. Saturated roofing is coated with asphalt and surfaced with grit as usual. Two such sheets are brought together with the grit-covered surfaces opposed after one or both of the grit surfaces has been previously treated with a coating of hot asphalt or asphalt emulsion. The united sheets are then run between pressure rolls to firmly unite them, forming a unitary structure of a sandwich-like character. One or both sides of the united sheet may be asphalt-coated and grit-surfaced as usual. Instead of embedding grit between the sheets, iron filings, short pieces of metal, wood or other reinforcing material may be used. If desired, more than two plies may be thus united, and by using a sufficient number of plies a built-up structure of tile or block-like character can be made.—A. P.-C.

Manufacture of Prepared Roofings. J. E. Miller assignor to Certain-Teed Products Corp. U. S. pat. 1,636,750, July 26, 1927. The felt is first passed under a suitable number of heated rolls, between which it is raised in form of loops (preferably about 10 feet high) by passing over smaller rolls which also preferably are heated. Hot asphalt, preferably at 350 degrees to 450 degrees F., is applied to the side of the felt which passes under the larger heated rolls, and preferably just before it reaches these rolls. After this application of asphalt to one surface (which is the same at all the rollers) the felt is passed through a saturating bath of the ordinary type, on emerging from which it is pressed to eliminate the excess of saturant, allowed to travel in the air a distance sufficient to set the saturant, and reeled. It is claimed that this process completely eliminates the moisture and air originally contained in the felt without causing foaming trouble in the saturating bath, increases saturation about 10 to 20 percent, eliminates blisters and pock marks which frequently appear when the roofing is put in service, and allows of saturating at a higher speed.—A. P.-C.

Insulating Papers. Felten and Guilleaume Carlwerke Akt.-Ges. U. S. pat. 1,630,424, May 31, 1927. Eng. pat. 270,423. In the production of insulating paper containing phenol resins, the water of the paper pulp is replaced by a solvent for phenol resins, such as alcohol. A solution of phenol resin is then added and the well-mixed mass added to water. The phenol resin is thus precipitated upon the fibrous material which may then be made into paper, or the resin may first be converted into the C-state by heating. The paper may be used for insulating high-tension cables, grading of the dielectric constants being effected by adjustment of the percentage of phenol resin.—A. P.-C.

Paper. J. McIntosh assignor to Diamond State Fibre Co. U. S. pat. 1,631,750, (June 7, 1927). Cellulose nitrate or acetate or other cellulose ester is added to paper and rag fibers before they are run off on a fourdrinier machine, the paper is processed in the usual manner, parchmentized and then subjected to heat and pressure to cause the cellulose ester to more thoroughly permeate the mass.—A. P.-C.

Process for Paraffining Paper Board. D. Finley assignor to the Paraffine Companies. Inc. U. S. pat. 1,641,479, Sept. 6, 1927. In order to prevent the mottling which frequently occurs when paraffining lined paper board through partial and uneven penetration of the paraffine through the liner, the board is first coated with a solution of various salts containing up to 50 percent solids or more, about three-quarters of an ounce of solution per square yard of board being generally satisfactory. The treated board may be either heated to dry it, or allowed to travel in the air sufficiently far to allow the moisture contained in the solution to penetrate into the board and leave a practically dry coating of the solids from the applied solution. The Board is then paraffined in

the usual way. If mottling on one side is not a drawback, the treatment need be applied to only one side.—A. P.-C.

Process for Creping Paper Longitudinally. E. H. Angier. U. S. pat. 1,643,147, Sept. 20, 1927. The paper, either dry or moistened, is held firmly between two travelling endless rubber belts which are of the same width. These belts are stretched transversely at the point where the paper reaches them, and are allowed to gradually contract to their natural width. As the stretches of the belts which are in contact are supported so as to be in a plane and prevent sagging between the carrying rolls, the paper is held firmly and is prevented from merely buckling or folding.—A. P.-C.

Air-Suction Crinkling Apparatus. K. Wandel assignor to Arkell Safety Bag Co. U. S. pats. 1,630,319 and 1,630,320, May 31, 1927. *No. 1,619,319*—The clinking drum is provided with circumferential grooves connected to a suction box inside the drum, to hold the paper against the drum as it comes up to the crinkling doctor, while the crests or rings between the grooves keep the paper from being drawn into the grooves. *No. 1,619,320*—In this case the drum is constructed as above; but the suction is obtained by means external to the drum instead of by a suction box inside it.—A. P.-C.

Method and Apparatus for Making Paper Strips with Thinned Edges. J. G. Jones assignor to Eastman Kodak Co. U. S. pat. 1,634,997, July , 1927. The paper under tension is held over a grooved support and abraded by means of a grinding wheel in the form of two truncated cones joined at their bases.—A. P.-C.

Method of and Apparatus for Creping Paper. A. E. Cofrin. U. S. pat. 1,641,739, Sept. 6, 1927. A roll is provided to press the paper against the first drier, making it adhere thereto. It is removed from contact with the drier rolls by means of a creping doctor, and is then passed through the remainder of the drier part of the paper machine in the usual way.—A. P.-C.

Waterproof Sand Paper and Method of Making the Same. F. J. Crupi assignor to Herman Behr & Co. Inc. U. S. pat. 1,642,766, Sept. 20, 1927. Abrasive material is made to adhere to one side of a base fabric by means of a waterproof coating material, and the other surface of the base is covered with a cellulosic coating material containing a filler and an emollient to maintain flexibility.—A. P.-C.

Machine for Making Corrugated Paper. S. M. Langston. U. S. pat. 1,642,782, Sept. 20, 1927. The paper is corrugated by passing throught a pair of meshing corrugating rolls. One of the rolls is journalled in a pair of pivoted arms permitting of swinging movement of the roll to vary the extent of meshing of the rolls. Means are also provided for adjusting one of the supporting arms in an endwise direction to thereby adjust the end of the roll in a direction substantially at right angles to the plane of the axes of the meshing rolls without disturbing the degree of meshing of the rolls.—A. P.-C.

Apparatus and Method for Packaging Paper. H. P. Carruth and W. C. Ludwig assignors to The Mead Pulp & Paper Co. U. S. pat. 1,638,563, Aug. 9, 1927. The paper sheets are piled on a platform of the same size as the sheets, which is provided with a pair of skids of such a height as to permit pushing an elevating truck thereunder, whereby the platform may be readily raised and transported. The paper is preferably wrapped with a protective covering, such as thin, flexible, waterproof paper, and a closely-enclosing confining framework is then built up upon the platform to hold the paper securely and protect the corners and sides. A platform larger than the size of the sheets may be used, in which case the protective framework is secured to the top of the platform.—A. P.-C.

Machine for Placing, Pressing and Drying End Caps on Paper Rolls. W. Ljungström. U. S. pat. 1,642,340, Sept. 13, 1927. A machine for use in pressing on the end caps of paper rolls enclosed in paper wrapping comprises a fixed and a movable press head, together with mechanism for moving the movable head towards the fixed one to press the end caps on a paper roll placed between the head. An automatic stop motion is provided to arrest the forward motion of the movable head.—A. P.-C.

Non-Absorbent Cellulose Watting and Process of Making the Same. Papeteries de la Robertsau Fr. pat. 622,056. This product is prepared in the same manner as the ordinary absorbent cellulose wadding, except that the stock is subjected to some treatment such as sizing to render it non-absorbent.—A. P.-C.

Gelatinizing Wood. A. W. Schorger assignor to Wood Conversion Co. U. S. pat. 1,631,834, June 7, 1927. Wood fibers that have been subjected to treatment with a small quantity of alkali are mechanically disintegrated to produce a gelatinous mass which can be molded and worked with tools like wood.—A. P.-C.

Electric Insulation Board. D. M. Sutherland, Jr. U. S. pat. 1,636,491, July 19, 1927. Compressed insulating material is formed from 40 percent cellulose 15 percent oil soap, 2 percent acaroid resin and 43 percent gilsonite. A. P.-C.

Notes on the Examination of Decayed Papier Mache Fire Buckets. A. C. Thaysen and H. J. Bunker. J. Soc. Chem. Ind. 46, 382T (Sept. 23, 1927). Experimental evidence is given showing that the deterioration of papier mâchè fire buckets is due solely to the activity of micro-organisms. When microbiological action can be eliminated through the addition of antiseptics (*e.g.* phenol) the life of papier mâché buckets can be almost indefinitely extended. This no doubt will be the case with other papier mâché articles, even where they are intended for holding water for prolonged periods.—A. P.-C.

"Fibramite"—A Material with Unlimited Possibilities. Paul Tacussel. Paper Trade J. 85, No. 7, 54-55 (Aug. 18, 1927). "Fibramite" consists essentially of 55 percent of fibrous material (paper or textile fabric) and 45 percent of an organic binder (natural or synthetic resins), molded at high temperature and under high pressure. Various qualities are made, differing in certain special properties so as to render it more suitable for certain particular applications; but the essential properties are the same for all grades. The properties and applications (especially in the electrotechnical industry) are outlined.—A. P.-C.

Colored Printing of Paper and Cardboard by Means of Engraved Rubber Rolls. J. Rollin. Paper Trade J. 85, 6o. 6, 47-48 (Aug. 11, 1927). Description of the use of engraved rubber rolls (in which the designs stand out in relief, about 2 to 3 mm. thick), and of its advantages as compared with roll linings moulded in rubber from zinc engravings.—A. P.-C.

Performance of Vim Belting Under Severe Conditions in Paper Mill. A. C. Nielsen Co. Paper Mill 50, No. 29, 37, 44 (July 16, 1927). A comparison of the performance of oak tanned.

Anti-Friction Bearing Dividend. Reginald Trautschold. Paper Trade J. 85, No. 5, 40-44 (Aug 4, 1927). A discussion of the advantages to be derived from the application of anti-friction bearings to paper machinery.—A. P.-C.

West Lund Friction Clutch and Cut-off Coupling. Anon. Paper Mill 50, No. 32, 34 (Aug. 6, 1927). A brief description of the clutch with a discussion of its merits.—A. P.-C.

Efficient and Economical Utilization of Electric Power Neccessitates the Employment of Modern Speed Reducers. Reginald Trautschold. Paper Trade J. 85, No. 11, 38-44 (Sept. 15, 1927). A discussion of different types of speed reducers and of their merits in pulp and paper mill operation.—A. P.-C.

Care of Motor Insulation. C. W. Falls. Paper Industry 9, 694-695 (Sept. 1927). A general discusion of the care and attention which should be given to electric motor insulation—A. P.-C.

Money Earning Value of Electrical Instruments in Paper Mill and Power Plant. Reginald Trautschold. Paper Trade J. 85, No. 7, 38-44 (Aug. 18, 1927). A discussion of the savings which can be effected by proper use of various electrical measuring instruments (ammeters, voltmeters, wattmeters, frequency meters, thermometers and pyrometers, CO_2 and CO meters flowmeters and tachometers).—A. P.-C.

Some Experiments in Processing Pulp in the Rod Mill

By G. H. Chidister

In previous articles,[2] the semi-commercial rod mill installation at the Forest Products Laboratory and the preliminary results obtained by it have been described. The present paper describes attempts made to measure accurately the effect of varying some of the conditions of milling and the effect of the rod mill on various raw materials.

The development of the semi-chemical pulping processes at the Forest Products Laboratory involved the reduction of the partially softened chips into a pulp form which would be suitable for making paper. Such a reduction was attempted in 1924 using chips which were refined in a rod mill of the type used for grinding ore. The results led to the installation in the Laboratory of a semi-commercial mill 3 feet in diameter and 5 feet long. As far as can be learned, this trial constituted the first application of the rod mill to the refining of fibrous materials. The rod mill proved to be an excellent refiner for partially cooked chestnut, gum, and aspen chips, which, when milled, gave a satisfactory product for board, consumiig 6 to 10 horsepower-days per ton of pulp calculated to the basis of continuous operation in a 6 foot x 12 foot commercial size rod mill. Kraft screenings were reduced in the rod mill with a power consumption of 10 to 15 horsepower-days per ton, depending upon the degree of refinement.

The use of the rod mill in refining chips partially cooked by the semi-chemical process led for four principal reasons to a study of its application in the place of beaters in preparing pulp.

1. The possibility of improving pulp quality by more complete development of strength without material reduction of fiber length,
2. The possibility of decreasing the power required for preparing pulp.
3. The known ease of reducing shives and coarse particles; thus making a clean paper from a coarse pulp.
4. The known desirability of operating continuously; thus securing all of the inherent advantages of such operation after the proper conditions had once been established.

The principal actions in the rod mill are those of pounding, rubbing, and rolling rather than those of brushing and cutting as in the beater and jordan. For this reason, the rod mill tends to give hydration without the excessive shortening of fiber that usually occurs in the beater.

The value of the rod mill in processing fibers has been shown[3] by preparing a greaseproof paper from unbleached Mitscherlich sulphite pulp. Hydration was accomplished without as much shortening of the fiber as when the usual beating equipment was used. In preparing less hydrated papers, experiments with a southern kraft pulp indicated that the rod mill would produce,

TABLE 1—ROD MILL TEST DATA—COMMERCIAL KRAFT FROM SOUTHERN PINE

Run No.	Pulp, pounds, o. d.	Consistence, per cent	Speed of mill, r.p.m.	Power input, h.p.	Kind of milling element	Weight of milling element, pounds	Ratio weight of rods to weight of pulp	Time in mill, minutes	Tearing factor, gms./lb./ream	Bursting factor, pts./lb./ream	Tensile breaking length, meters	Tearing at 0.6 points bursting, gms./lb./ream	Time to 0.6 pts. per lb. per ream, minutes	Production rate, lbs./day	Power consumption 3'x5' mill batchwise, h.p.-days/ton	Power consumption * 6'x12' mill continuous, h.p.-days/ton	Time from maximum tear to maximum bursting, minutes
1	4.16	1.83	28	11.8	Solid steel rods	3720	895	0	1.14	0.14	....	2.8	9	665	36	24	5
								5	2.78	0.47	2564						
								10	2.88	0.67	3168						
								15	2.19	0.68	2895						
								20	1.86	0.68	3070						
								30	1.57	0.63	3450						
5	17.28	4.67	28	11.8	Solid steel rods	3720	215	0	1.14	0.14	....	3.0	22	1135	21	14	45
								15	3.04	0.50	1605						
								30	2.86	0.71	3190						
								60	2.49	0.85	4035						
								90	2.33	0.82	3193						
								120	2.22	0.76	3315						
10	25.00	6.05	28	11.8	Solid steel rods	3720	149	0	1.14	0.14	....	3.1	35	1030	23	15	60
								30	3.17	0.57	2985						
								60	2.88	0.75	3810						
								90	2.39	0.77	3800						
								120	2.17	0.77	3685						
								150	1.71	0.71	3550						
13	32.00	7.95	26	10.6	Solid steel rods	3720	116	0	1.14	0.14	....	3.2	40	1150	18	12	60
								60	3.23	0.76	3694						
								90	3.30	0.80	3705						
								120	3.14	0.82	3878						
								150	2.27	0.86	3738						
14	50.40	12.00	26	10.6	Solid steel rods	3720	74	0	1.14	0.14	....	3.5	87	834	25	17	60
								60	3.69	0.53	2617						
								90	3.38	0.62	2868						
								120	3.28	0.67	2905						
								150	3.16	0.67	2722						
24	16.70	4.0	28	5.14	Steel pipe	1090	65	0	1.14	0.14	....	3.2	70	344	30	20	240
								45	3.01	0.42	2860						
								90	3.32	0.70	3948						
								135	2.91	0.86	4745						
								225	2.74	0.91	4401						
								330	2.43	0.92	3834						
Standard ball mill test (90 gms.)	.20	4.28	66		Flint pebbles	10.0	50	0	1.14	0.14	....	3.35	30				
								20	2.89	0.45	1782						
								60	4.03	0.93	3206						
								120	3.52	1.12	4256						

* To develop bursting strength factor of 0.6.

[1] Assistant Chemical Engineer in Forest Products, U. S. Forest Products Laboratory, Madison, Wis.

[3] Rue, J. D., and Wells, S. D. The Rod Mill in the Pulp and Paper Industry, Paper Trade J., vol. 83, No. 12, Sept. 16, 1926. Rue, J. D. The Rod Mill as a Beater and Refiner, Paper Trade J., Vol. 83, No. 24, Dec. 9, 1926.

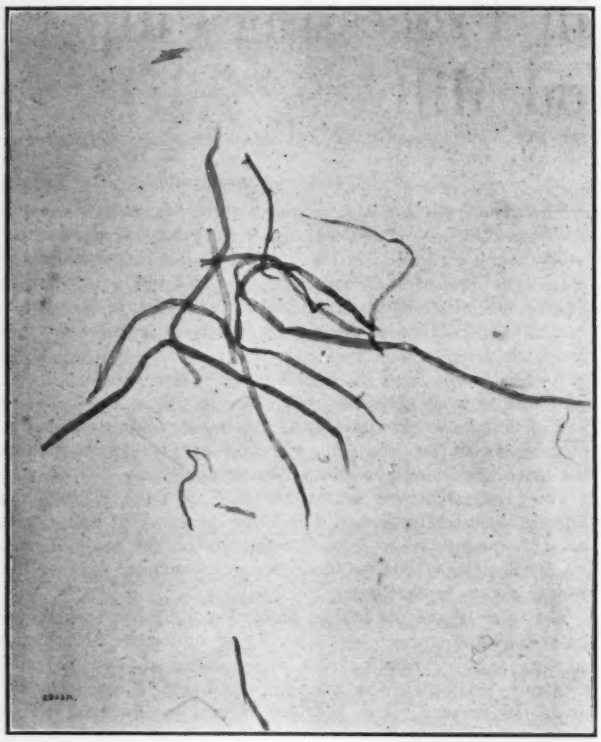

PLATE 1.
Commercial Kraft from Southern Pine. Unbeaten.

PLATE 3..
Southern pine Kraft. Rod mill run No. 1. Milled 15 minutes.

PLATE 2.
Southern pine Kraft. Rod mill run No. 1. Milled 5 minutes.

PLATE 4.
Southern pine Kraft. Rod mill run No. 1. Milled 30 minutes.

with a power consumption of 15 horsepower-days per ton, a paper equivalent to that prepared in a beater with 26 horsepower-days per ton.

MILLING EXPERIMENTS

In an attempt to determine the most satisfactory operating conditions, experiments were made on a commercial kraft pulp produced from southern pine by varying the consistence, weight of the individual rods, and the milling time. A study was made of the rod mill and of a commercial size beater in a kraft mill to obtain a comparison of their effect upon quality of paper and power consumption when using the same pulp. A similar study was made on manila hemp-rope stock. Sulphite screenings were also refined to determine the effectiveness of the rod mill.

Many of the milling experiments were made by batch operation. The ends of the mill were closed, and samples removed at intervals to secure sheets for strength tests, the procedure being similar to the customary method of making a ball mill beating test. Although somewhat different conditions may be encountered in a continuous run in a large mill, the fundamental effects determined in this way can be applied as suits the conditions in particular cases.

The sample sheets and strength tests were made by the "old" standard method[3] of the Forest Products Laboratory.

In these milling experiments the charge of heavy rods consisted of 52 steel rods of 1½", 2", 2½", and 3" diameters, weighing 3720 pounds. The charge of light rods consisted of 45 tubes cut from 2" extra-heavy iron pipe, and closed at the ends. The total weight of the charge of light rods was 1100 pounds.

In calculating the power consumption and rate of production, the figures obtained in the batch runs are first calculated to the basis of continuous operation in the 3 x 5 foot mill, and then to continuous operation in a 6 x 12 foot mill. Various test comparisons[3] in the small mill show that approximately twice the refining time required in batch operation is required in continuous operation, and that in refining semi-chemically softened chips, a 6 x 12 foot mill consumes one-third as much power per ton of pulp as a small 3 x 5 foot mill.

Milling Commercial Kraft Pulp from Southern Pine

Five series of experiments were made, the consistence (or the ratio of the oven-dry pulp to total pulp and water) varying from 1.8 per cent to 12.0 per cent. The power consumption for each run was calculated to a refining of approximately the same degree as in ordinary kraft wrapping paper having a bursting factor of 0.6 points per pound per ream on hand-made sheets. The data are presented in Table 1, and shown graphically in Figure 1 where the results are compared with those obtained in a small laboratory ball mill.

For the conditions described for these experiments:

1. The maximum tearing strength developed in milling increases as the consistence is increased.

2. This maximum tearing strength is reached more slowly as consistence is increased.

3. Greater tearing strength is developed in the small laboratory ball mill than in the rod mill.

4. Light rods give a higher tearing strength than heavy rods for the same consistence.

5. The maximum bursting strength is reached after 150 minutes milling at 8 per cent consistence, or above.

6. This maximum bursting strength is reached much more slowly as consistence increases.

7. The maximum bursting strength apparently passes through a maximum as consistence increases.

8. No bursting strengths are obtained by milling with the heavy rods as high as those developed either by the lights rods or the laboratory ball mill.

9. The maximum bursting strength is invariably developed after the maximum tearing strength has been reached.

10. As the consistence is increased, the general tendency is toward a higher tearing strength in relation to the bursting strength. Because the tearing strength is probably more directly affected by the length of fiber than the other tests, this indicates that less cutting of the fiber takes place for a given degree of hydration, as the consistence is increased.

11. The power consumption per ton of pulp to develop 0.6 points per pound per ream bursting strength with the heavy rods, decreases as the consistence is increased up to 8 per cent, and then increases somewhat at 12 per cent, although the differences between 4 per cent, and 8 per cent are small.

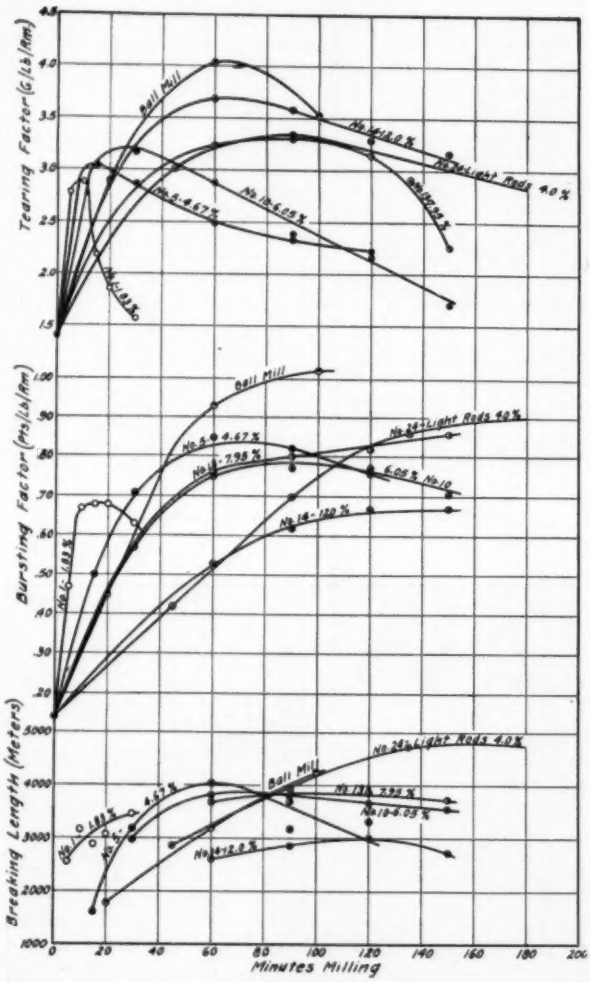

FIG. 1

Strength Development Curves. Commercial Unbleached Kraft Pulp. Made from Southern Pine. Hand Made Sheets.

12. The tensile strengths show practically the same tendencies as the bursting strengths.

13. The result of varying the consistence and the weights of the individual rods indicates that within wide limits, almost any desired combination of hydration and cutting can be obtained.

In operating continuously, 12 per cent is probably the practical maximum consistence. At a high consistence the rods are lifted by the pulp and work out of the mill through the discharge opening. Probably the most effective operating consistence is that at which a large part of the charge of pulp is held between the rods and no unbeaten fiber is by-passed through the pool of stock formed on the low side of the rod charge. In beating kraft stock for wrapping paper, it is quite likely that a consistence between 6 per cent and 8 per cent will give the best results. For

[3] Miller, R. N. A Method for Determining the Strength of Sulphite Wood Pulp, Paper Trade J., April 22, 1926.

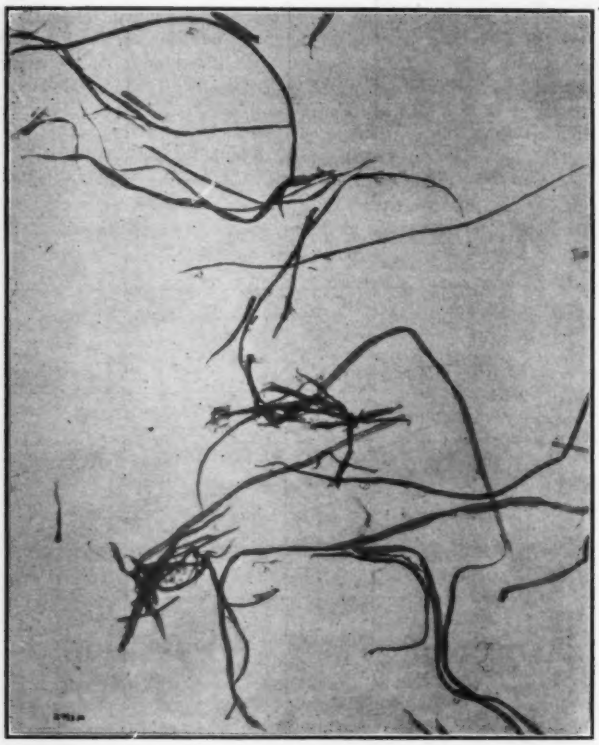

PLATE 5.

Southern pine Kraft. Rod mill run No. 5. Milled 30 minutes.

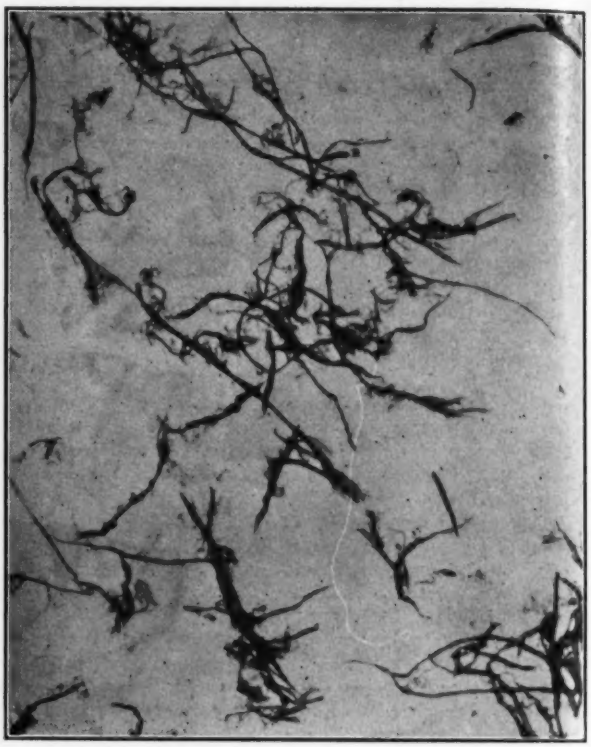

PLATE 7.

Southern pine Kraft. Rod mill No. 5. Milled 120 minutes.

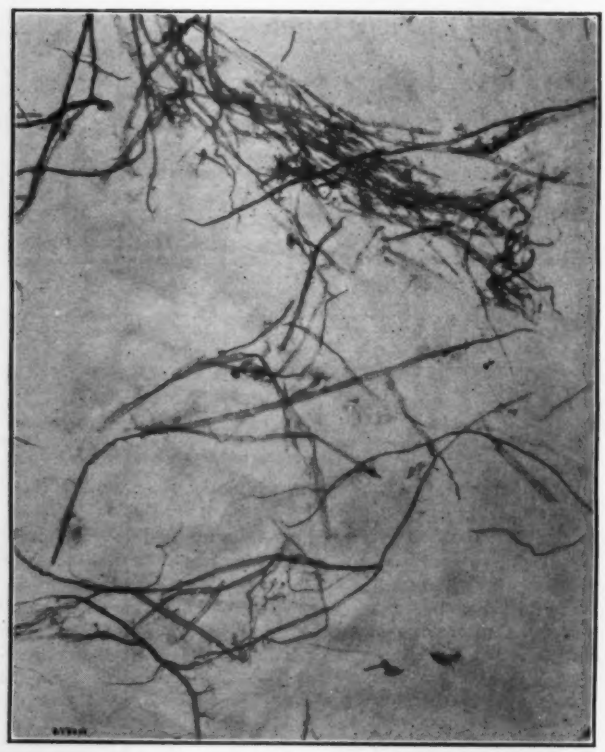

PLATE 6.

Southern pine Kraft. Rod mill run No. 5. Milled 60 minutes.

PLATE 8.

Southern pine Kraft. Rod mill run No. 10. Milled 30 minutes.

other stocks and kinds of paper, the treatment may be modified to some extent by regulating the consistence to suit the conditions.

Important variables other than consistence are the ratio of the weights of the milling elements and pulp; the density of the milling element as affecting the severity of the action; the size of the milling element as affecting the number of contacts; the hardness of the surface of the milling element; and the smoothness of the surface of the milling element. The effects of changing the consistence and weight of rods are probably due to a large extent to the consequent changes in the first two of these factors. Table 2 shows the magnitude of the differences in the variables of ratio weight of milling elements to pulp and a ratio of weight to surface of milling elements for a consistence of 4 per cent in the rod mill and 4.3 per cent in the ball mill considering the three types of milling machines tested, namely, rod mill heavy rods, rod mill light rods, and laboratory ball mill considering the three types of milling machines tested, changes in these relations indicate the need for further study of such variables.

TABLE 2
VARIABLES INHERENT IN MILLING MACHINES TESTED

Variables	Rod Mill Solid rods	Rod Mill Light rods	Laboratory Ball Mill
Consistence, per cent	4 0	4.0	4.3
Weight of milling elements, pounds	3720	1100	10
Weight of pulp charge, oven-dry, pounds	16 7	16 7	0.2
Ratio of weights, milling elements to pulp	223	66	50
Surface of milling elements, square feet	152	137	5.84
Ratio of weight to surface of milling elements, pounds/square foot	24 5	8.0	2.6

The paper machine runs on stock prepared in the rod mill gave satisfactory test results with a power consumption probably less than that required by a beater in preparing stock for the same kind and grade of paper. Consistencies from 4 per cent to 8 per cent were satisfactory. The last run, which was processed for a greaseproof sheet, showed high test results at about the same power consumption as required by a beater for this grade of paper. These data were set for in Table 3.

Photomicrogpraphs are shown of fibers from the first three runs showing the effect of milling (Pl. 1 to 11 inc.). As might be expected, the increase in the breaking off of the fiber particles is noticeable with the increase in hydration indicated by the increase in bursting strength, and the breaking up of the fiber increases as the tearing strength decreases during the milling process. The effect of consistence is shown to some extent in that less injury to the fiber is indicated for a given bursting strength as the consistence increases. The distinct cutting action shown in beater stock is not evident, but when the milling is carried far enough the fibers are shortened, and undergo general disintegration from the pounding.

The highest strength tests were obtained from the pulp treated in the small ball mill. The photomicrogpraphs (Pl. 12 and 13) of this stock show that the action has separated some small fiber particles, apparently from the surface of the fiber, with very little injury to the fiber itself, the action being less drastic than that shown by the rod mill. From these photomicrogpraphs it would appear that for the development of the greatest strength by mechanical processing, the action should be such that hydration is produced by breaking up the fiber only slightly on the surface without materially injuring the inner fiber wall and decreasing its strength. This effect is also shown to some extent in the photomicrogpraph of the stock milled with the light rods. Although the milling was carried far enough to give a high degree of hydration, the tearing strength was also high, and the fibers appear comparatively unharmed as to fiber length.

A Comparison of Rod Mill and Beater

Through the courtesy of a commercial paper mill, an opportunity was afforded to make a direct comparison of rod mill and beater in preparing both greaseproof and kraft wrapping papers, taking advantage of the favorable conditions previously determined for the rod mill.

In order to obtain means of accurately comparing paper produced on a large paper machine in the mill with that produced on a small Laboratory paper machine, amounts of stock equivalent to 50 pounds dry weight, beaten for greaseproof paper and for kraft wrapping, respectively, were taken from the second presses of the mill paper machines, and run over the Laboratory machine. This procedure might be described as a calibration of one machine in the terms of the other. Semi-bleached kraft pulp was used for the greaseproof paper and unbleached kraft pulp for the wrapping paper. Pulp of the same quality as that used in the paper mill was used in the rod mill tests.

TABLE 4
STRENGTH DATA ON HAND SHEETS FROM ROD MILL RUN NO. 15 USING HEAVY RODS ON KRAFT STOCK

Time in mill minutes	Tearing factor gms./lb./ream	Bursting factor pts./lb./ream	Tensile breaking length meters
30	2.75	0.70	3577
60	2.56	0.86	4277
90	2.18	0.86	4330
120	1.92	0.87	4820
150	1.71	0.84	4945

STRENGTH AND POWER CONSUMPTION DATA ON LABORATORY PAPER MACHINE-MADE SHEETS FROM KRAFT STOCK MILLED BY HEAVY RODS

Run No.	Power consumption Time in rod mill minutes	Tearing factor gms./lb./ream	Bursting factor pts./lb./ream	Tensile breaking length meters	Paper machine Commercial rod mill hp.-days/ton
Wet broke		1.49	0.78	5652	..
15	150	1.25	0.75	5763	59
16	180	1.22	0.82	5763	59

Refining for Greaseproof Paper

In the greaseproof trials, the objective was to retain the fiber length so as to give strength combined with the high degree of hydration necessary to produce the greaseproof quality. One rod mill batch (run No. 15) was made over a total milling time of 150 minutes to establish the strength curves and the progress of hydration. Two laboratory paper machine runs were made on subsequent rod mill batches, the first being milled 150 minutes to a point where a light brush in the jordan brought the blister test or the greaseproof quality, and the second 180 minutes. Twenty per cent unbeaten fiber was added to the stock from the second

TABLE 3
PAPER MACHINE RUNS ON ROD MILL STOCK—COMMERCIAL KRAFT FROM SOUTHERN PINE—3,720 POUNDS STEEL RODS USED

Run No.	Pulp o.d. equivalent, pounds	Consistence, per cent	Speed of mill, r.p.m.	Power input, h.p.	Time in mill, minutes	Weight per ream, pounds (24×36—500)	Tearing strength, gms./lb./ream	Bursting strength, pts./lb./ream	Tensile breaking length, meters	Stretch, per cent	Production rate, lbs./day	Power consumption 3'x5' mill batchwise h.p.-days/ton	Power consumption 6'x12' mill continuous, h.p.-days/ton	Remarks
1	Beaten in laboratory beater				..	34.4	1.51	0.79	5431	3.5	...	...	...	
2	17.28	4.67	28	11.8	40	38.5	1.95	0.69	4624	2.6	621	38.0	25.3	Not jordaned.
3	17.28	4.67	28	11.8	40	44.5	1.80	0.73	4654	1.8	621	38.0	25.3	Jordaned
8*	17.28	4.67	26	10.6	60	42.5	2.07	0.63	4172	2.1	415	51.1	34.0	Not jordaned.
9*	17.28	4.67	26	10.6	60	45.5	2.23	0.76	4939	2.9	415	51.1	34.0	Jordaned.
13	25.00	6.00	26	10.6	150	41.5	1.39	0.77	3781	1.5	240	88.5	59.0	20% unbeaten fiber added, jordaned.

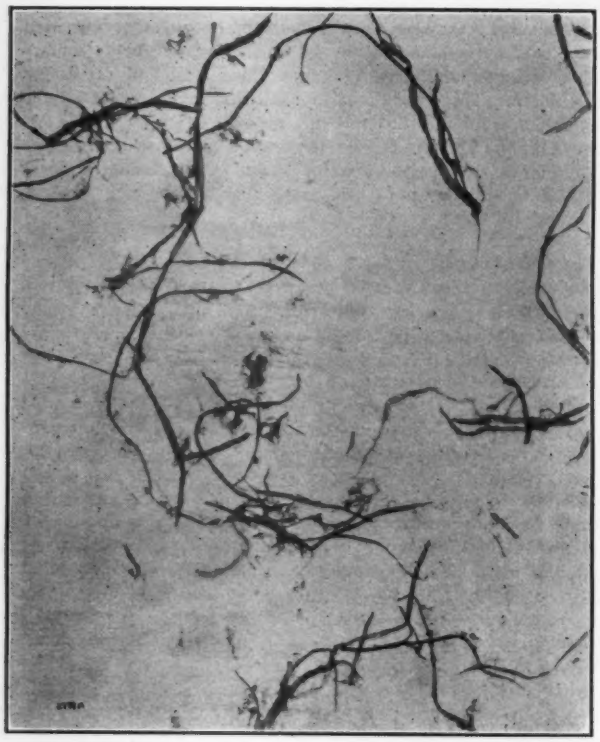

PLATE 9.

Southern pine Kraft. Rod mill run No. 10. Milled 75 minutes.

PLATE 11.

Southern pine Kraft. Rod mill run No. 24. Milled 420 minutes.

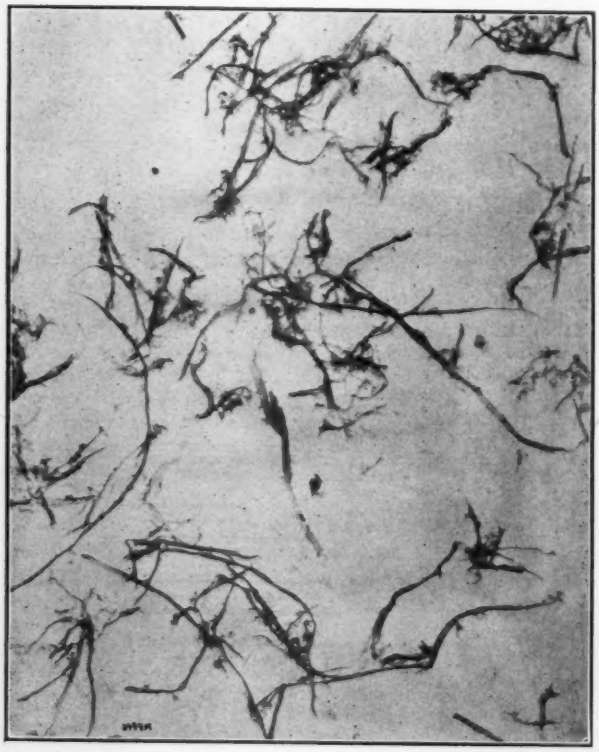

PLATE 10.

Southern pine Kraft. Rod mill run No. 10. Milled 150 minutes.

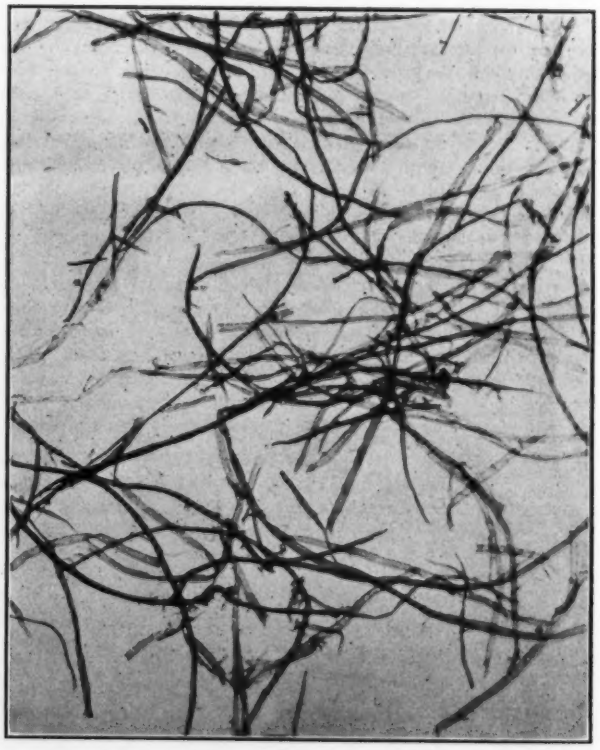

PLATE 12.

Southern pine Kraft. 60 minutes in ball mill.

run to maintain the tearing strength, and the mixture then jordaned.

In these runs the rod mill was rotated at 27 r.p.m. with the charge of heavy rods. In the preliminary batch run, a consistence of 4.5 per cent was used, whereas in the two later runs 6 per cent was established as more desirable. The strength test results are given in Table 4.

In the preliminary batch run, the hand-made sheets showed that tearing strength factor steadily declined; the bursting strength factor reached a maximum and dropped off; and the breaking length increased during the run. The strengths of machine-made paper (run No. 15) were slightly lower than those of the wet broke with the exception of the breaking length, which was slightly higher. Machine-made paper (run No. 16), containing 20 per cent of unbeaten fiber, showed a slightly higher bursting strength factor and breaking length than the wet broke, with the tearing factor practically unchanged, and possessed excellent properties. It was considerably more hydrated, and showed a greater resistance to the penetration of oil than the sheet made from the wet broke of the mill.

The color of the paper prepared in the rod mill was somewhat darker than that obtained from the wet broke, caused by the discoloring action of iron from the steel rods. It is possible, however, to preserve the light color of the paper by the use of rods of a non-rusting material.

A careful stody of the photomicrographs made from samples of the three runs reveals definite characteristics. The fiber from the machine run No. 15 (Pl. 15) appears more uniformly hydrated, as indicated by the fibrillation, than either that of the wet broke (Pl. 14) or from run No. 16 (Pl. 16). In run No. 16, the unbeaten fibers which were added to the "furnish' may be seen. The hydrated fibers in the latter two samples appear to be more severely attacked than those in machine run No. 15.

The power consumption is calculated as follows:

In machine run No. 15, the equivalent of 25 pounds oven-dry pulp was beaten 2½ hours, using a power input of 10.6 horsepower. The output of the mill is then:

$$25 \times \frac{24}{2.5} = 240 \text{ pounds for each 24 hours.}$$

The power consumption is

$$\frac{2000}{240} \times 10.6 = 88.3 \text{ horsepower-days per ton for the batch}$$

operation of the small rod mill, and assuming that the same ratio holds in beating kraft pulp as in refining semi-chemical chestnut chips[3], $88.3 \times 2/3 = 59$ horsepower-days per ton for continuous operation of a 6 foot by 12 foot commercial mill.

In machine run No. 16, 180 minutes, equivalent to 20 per cent more time than in run No. 15, was consumed but 20 per cent of raw fiber was added and therefore the power consumption is the same as for run No. 15. With 3 horsepower-days per ton added for light jordaning, the total power equipment for each of the two runs is approximately 62 horsepower-days per ton. The power consumption necessary to produce the commercial wet broke used above, is about 50 horsepower-days per ton. The sheet, however, is not as hydrated as that prepared in the rod mill and there is a corresponding weakness in all strength factors except in tearing.

Refining for Kraft Wrapping Paper

The strength factors resulting from rod mill runs using heavy solid rods are considerably below those shown in the small ball mill runs using the standard ball mill test procedure. This fact and the appearance of the stock indicated that the maximum strength was not developed by the heavy rods, and brought out the possibility that their action was too drastic for best results where dryration of the fiber without cutting is desired. After the experimental runs for grease proof were made, the light rods were tried. Preliminary tests using these light rods gave encouraging results, and in the latter trials with kraft wrapping paper a comparison was obtained of paper beaten with the charges of heavy and light rods, respectively, with that beaten commercially in the mills as represented by the wet broke.

Two preliminary batch runs were made, one employing light rods (No. 25) and one using heavy rods (No. 50, to determine the progress of refining. The mill was rotated at 29 r.p.m. in run No. 25, and at 27 r.p.m. in run No. 50. A consistence of 4 per cent was used. The data are presented in Table 5. One laboratory paper machine run was made using the wet broke from the paper mill. Two laboratory machine runs were made using, in one case, pulp refined by the light rods, and the other by the heavy rods with consistence constant at 4%. The strength data from these runs are given in Table 6.

TABLE 5

STRENGTH DEVELOPMENT OF KRAFT PULP BY MILLING USING THE LIGHT RODS AND THE HEAVY RODS (HAND-MADE SHEETS)

Run No.	Time in rod mill min.	Tearing factor gms./lb./rm.	Bursting factor pts./lb./rm.	Tensile breaking length meters	Stretch per cent
Rod mill run	60	2.81	0.58	3026	6.88
No. 25	120	3.03	0.85	4792	8.38
Light rods	180	2.86	0.96	4595	10.50
	240	3.23	1.05	5469	11.50
	300	3.00	1.12	5422	11.88
	360	2.72	1.14	4636	14.63
	420	2.82	1.06	6025	14.00
Rod mill run	30	2.38	0.69	3195	5.37
No. 50	60	2.10	0.83	3720	7.12
Heavy rods	90	1.90	0.87	3930	9.00
	120	1.65	0.88	4075	7.75
	150	1.53	0.84	3780	9.37
	180	1.35	0.77	3600	5.88

TABLE 6

STRENGTH TESTS ON LABORATORY MACHINE-MADE PAPER USING KRAFT PULP VARIOUSLY REFINED

Paper machine runs, number	Time in rod mill, minutes	Weight per ream, pounds	Tearing factor, gms./lb./ream	Bursting factor, pts./lb./ream	Tensile breaking length, meters	Stretch, per cent	Power consumption in rod mill, 6'x12' mill, continuous operation, h.p.-days/ton.
Wet broke, mill beaten		36.0	2.33	0.86	6868	3.4	*
27, light rods	40	30 0	1.60	0.98	6214	2.76	13.4
26, light rods	50	32.0	1.33	0.95	5738	4.09	16.7
57, heavy rods	15	38.5	1.83	0.76	5015	3.22	8.8

* 26 h.p.-days/ton consumed in mill beating.

The data of Table 5 are plotted in Figure 2 as fair curves to bring out the general trends. The following generalizations may be made:

1. The heavier rods produce much more rapid rates of change in all strength phenomena than the lighter rods.

2. A large gain is obtained for the maximum value of each of the strength properties by employing the lighter rods.

3. The tearing strength passes through its maximum value before 30 minutes (the first reading) under heavy rod treatment.

4. The bursting strength goes through a maximum value in 100 minutes under heavy rod treatment.

5. The breaking length goes through a maximum value in 120 minutes under heavy rod treatment.

6. Further study of each individual mill problem would undoubtedly indicate the optimum design for energy consumption in order to reach a given value for each of the various strength factors.

PLATE 13.

Southern pine Kraft. 100 minutes in ball mill.

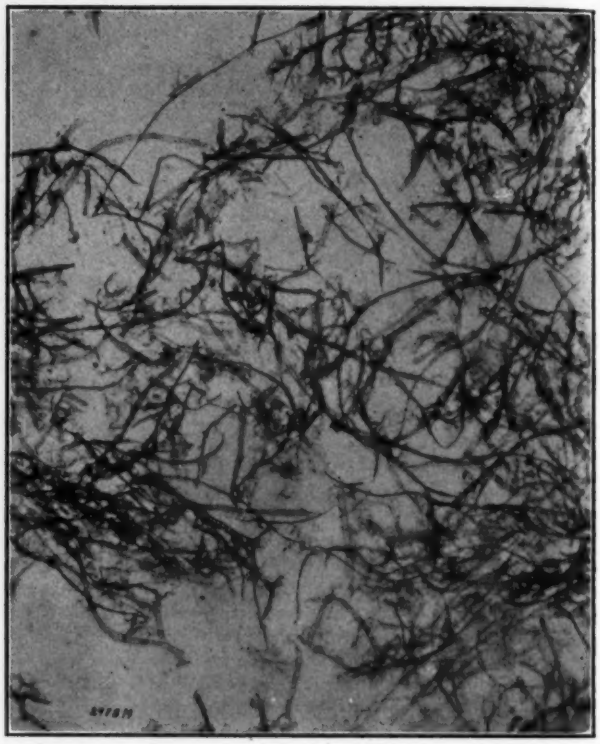

PLATE 15.

Tamarack Kraft. Machine run No. 15.

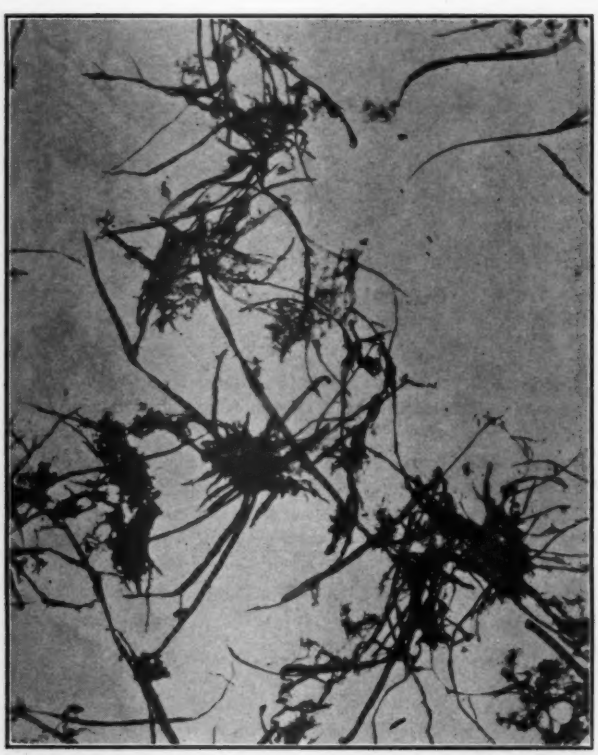

PLATE 14.

Tamarack Kraft. Wet broke from commercial machine.

PLATE 16.

Tamarack Kraft. Machine run No. 16.

The paper machine sheets prepared from pulp milled with the light rods gave a higher bursting test than that prepared either by the heavy rods or from the wet broke (Table 6). The tearing and tensile tests were slightly lower than those on the wet broke, but the paper appeared much more hydrated than either of the other samples. The run with heavy rods gave a somewhat higher tearing and a lower bursting test than that with the light rods. The short time of milling with the heavy rods permitted a higher point to be reached on the tearing curve but a lower point on the bursting curve.

The power consumption figures in Table 6 were calculated as indicated previously. The following expression is found convenient for converting batch operation laboratory mill, to continuous operation 6 foot by 12 foot mill:

Power consumption H. P. days per ton $= .925 \frac{PT}{W}$, where

P = Horsepower required—power input
T = Time of milling batch in minutes
W = Charge of pulp milled in pounds

The average power consumption for the mill beaters and jordan was stated to be 26 horsepower-days per ton.

Photomicrographs were taken of three of the kraft samples, the wet broke (Pl. 17), machine run No. 27 (Pl. 18), and machine run No. 57 (Pl. 19). The wet broke shows the least fibrillation; run No. 57 slightly more; and run No. 27 the most. Cutting action is shown in the sample of wet broke. The fiber in run No. 27 appears to be in fair condition in spite of being considerably hydrated.

Refining Manila Hemp Rope Stock

Through the cooperation of the John A. Manning Paper Company, a study was made of the refining of manila hemp rope stock by means of the rod mill, particularly in regard to the improvement of strength and the reduction of shives. It was believed that, if a high degree of hydration could be obtained without excessively shortening or weakening the fibers, these improvements could be obtained. By the ordinary beater methods it seemed impossible economically to obtain the desired qualities.

MATERIAL

The material for the tests consisted of the following:

1. Rope stock direct from the rotary boiler and unwashed.
2. Quarter stock which had been washed but not beaten.
3. Half stock which was prepared in the same manner as the quarter stock and in addition given a light beating.
4. Wet broke from the first press of the paper machine and produced in the same beater as the above samples.

This wet broke stock was run over the small laboratory experimental paper machine to obtain a comparison of physical properties of the stock prepared in the mill beaters by the ordinary method with that prepared in the rod mill in the course of the experimentation. Thus variations in quality due to the differences in the performance of the two paper machines were known.

TABLE 7

STRENGTH DATA FROM TESTS ON MILL WET BROKE ROPE STOCK

Method	Tearing factor gms./lb./ream	Bursting factor pts./lb./ream	Tensile breaking length meters	Stretch per cent
Mill-made paper	...	1.40	7305	4.5
Hand sheets	4.65	0.92	3453	10.8
Laboratory machine-made paper	4.46	0.73	4311	3.5

Strength tests on hand sheets and on the laboratory paper machine sheets made from the wet broke are given in Table 7.

Milling Tests

Four batch runs and one continuous run were made on the various samples of rope stock, with consistence constant at 6 per cent and with wet fiber charge equivalent to 25 pounds of oven-dry stock. The mill was rotated with the heavy rods at 25 r.p.m. and with the light rods at 28 r.p.m. The power input was determined from hourly watt meter readings. The rod milling test results are given in Table 8. The test results from the paper machine sheets are given in Table 9.

BATCH RUN No. 1

Unwashed rope stock from the rotary boiler was employed in the first run, the mill being equipped with the heavy steel rods. This stock contained lime, soda, and dirt, and because it appeared least desirable of any of the samples for direct processing in the rod mill, it was used first to indicate the action of the rod mill. At the end of an hour, the stock was very short and considerably over-milled. Even considering the possible grinding action of the particles of lime and dirt and the effect of the alkali, the stock was reduced much faster than was expected.

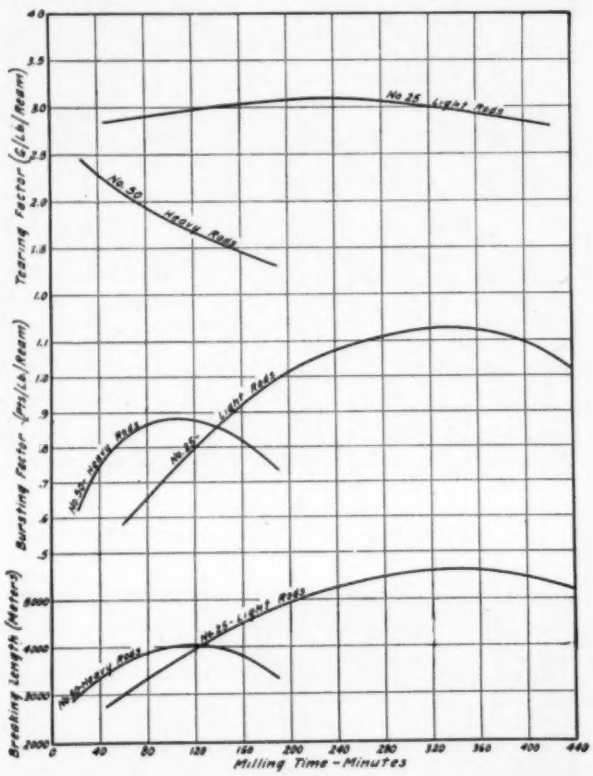

FIG. 2

Strength Development Curves. Commercial Unbleached Kraft Pulp from Tamarack. Consistence Constant at 4 per cent. Hand Made Sheets.

This stock was later washed for 6 hours in a small beater, and then run over the paper machine. Although a good appearing sheet resulted, the strength and the hydration were much less than that desired.

Applying the formula given previously, the power consumed was $0.925 \times \frac{12.1 \times 60}{25}$ or 27 horsepower-days per ton for 6' × 12' mill in continuous operation.

BATCH RUN No. 2

Quarter stock was milled in the second run and the light rods were employed. At the end of four hours the condition of the stock approximated that of the wet broke from the mill. The stock was then put over the laboratory paper machine. The freeness of the milled quarter stock was somewhat lower than that of the wet broke although the fibers appeared considerably longer. Samples of the stock were taken at one hour intervals for freeness and strength tests.

PLATE 17.

Tamarack Kraft. Wet broke from commercial machine.

PLATE 19.

Tamarack Kraft. Machine run No. 57.

PLATE 18.

Tamarack Kraft. Machine run No. 27.

PLATE 20.

Manila Hemp rope stock. Batch No. 2. Milled 240 minutes.

Considering the importance of the tearing factor and the other strength qualities, the best sheet of paper was obtained from batch run No. 2 with the stock lightly jordaned. The sheet appeared more hydrated, contained fewer large shives, and the fiber appeared longer than in the sheet made from the wet mill broke.

The photomicrograph shown in Plate 20 is of the unjordaned stock. Although there is some splitting off of small fiber particles, the fibers appear to be the least injured of any of those shown in the photomicrographs. This stock exemplifies a medium degree of hydration with very little cutting.

Batch Run No. 3

Half stock was next tested, employing light rods. The run was continued for eight hours to determine the maximum bursting strength that could be developed, and the degree of hydration which could be obtained without excessive cutting of the fibers. Samples of the stock were taken and tests made in the same manner as in the previous run. To determine the quality of a highly hydrated sheet, the stock was put over the paper machine

The machine-made paper, using the stock milled in run No. 3, appeared considerably more hydrated than any of the other machine-made samples. The tearing factor was lower, however, and the increase in the other strength properties shown in the hand sheets was not borne out in the machine-made sheet. Although the fiber was not as long as in the previous run, it was not greatly shortened, and appeared about the same length as in the wet broke. A sample of the stock taken after being milled 480 minutes is shown in the photomicrograph in Plate 21. In spite of the fact that the fibers are greatly hydrated, their condition does not appear very different from the samples of the wet broke stock (Pl. 22) which was beaten by the regular mill method. Some cutting is evident in the latter, which is marked by the letter "C." More splitting off of the fiber particles appears in these samples than in the sample of run No. 2.

Batch Run No. 4

The fourth batch run was made to determine the effect of the heavy steel rods upon the quarter stock. The milling was carried beyond the point desirable for the production of the best sheet of paper in order to secure the strength development curves.

The trial brought out good qualities in all of the tests except tearing. The fiber was shortened rapidly before becoming greatly hydrated. At the end of 150 minutes the stock was considerably hydrated, but at the sacrifice of fiber length. The photomicrograph, Pate 23, indicates much more splitting off of the fibers with considerable reduction in length as compared to the other photomicrographs and is an example of excessive cutting and hydration combined.

TABLE 9

COMPARISON OF STRENGTHS, LABORATORY MACHINE-MADE ROPE PAPER FROM MILL STOCKS

Stock used	Rod mill run No.	Treatment	Tearing factor, gms./lb./ream	Bursting factor, pts./lb./ream	Tensile breaking length, meters	Stretch, per cent
Mills beaten	..	Laboratory machine	4.46	.73	4311	3.5
Washed unbeaten	2	240 minutes, light rods Not jordaned	4.37	.81	4757	4.9
Washed unbeaten	2	240 minutes, light rods Jordaned	5.29	.82	5703	5.6
Washed unbeaten	4	150 minutes, heavy rods Not jordaned	2.48	.83	4670	6.5
Washed unbeaten	4	150 minutes, heavy rods Medium jordaned	2.45	.88	4932	5.7
Washed and mill brushed	3	480 minutes, light rods Not jordaned	3.0	.83	5243	5.0
Washed and mill brushed	3	480 minutes, light rods Medium jordaned	2.2	.87	5144	5.3
Washed and mill brushed	3	480 minutes, light rods Hard jordaned	2.7	.84	5510	5.4
Washed unbeaten	..	Continuous milling, equivalent 90 minutes heavy rods, not jordaned	3.87	1.01	5147	4.7
Washed unbeaten	..	Continuous milling, equivalent 90 minutes heavy rods, medium pordaned	3.86	.92	5070	5.0

The strength development curves of three batch runs are plotted against milling time in Figure 3. These curves show that strengths well above those of the wet broke hand sheets can be obtained easily by milling under various conditions. The effect of heavy rods (run No 4) and light rods (run No. 2) upon this rope stock is striking, particularly when compared with their similar effect upon kraft pulp as previously illustrated in Figures 1 and 2. The rope stock is more able to resist the drastic milling action of the heavy rods.

Neither light rod nor heavy rod milling was carried far enough with the rope stock to obtain a maximum bursting strength.

The light rod milling induced a tearing strength far superior to that by the heavy rods. The maximum for the heavy rods occurs after 30 minutes milling and is only slightly in excess of that of unmilled stock.

The maximum tensile strength is reached rapidly and abruptly when heavy rods are employed. The light rod maximum was reached after 240 minutes and probably would have exceeded the actual numerical value obtained by the heavy rods.

TABLE 8.—ROD MILL TEST DATA—ROPE STOCK—HAND-MADE SHEETS

Run No.	Method	Material	Kind of milling element	Time in mill, minutes	Tearing factor, gms./lb./ream	Bursting factor, pts./lb./ream	Tensile breaking length, meters	Stretch, per cent	Freeness, (Green) cc.	Power consumption, 3'x5' mill batchwise, h.p.-days/ton	Power consumption, 6'x12' mill continuous, h.p-days/ton
2	Batch	Quarter stuff	Light rods	60	4.78	0.57	2022	6.4		22.3	14.9
				120	4.67	0.72	2826	9.4		44.6	29.7
				180	5.03	0.80	2844	9.9		66.9	44.6
				240	4.58	0.93	3685	8.5		89.2	59.5
3	Batch	Half stuff	Light rods	0	4.15	0.64	2446	7.1	520		
				60	4.80	0.80	3068	8.3	425	21.9	14.6
				120	5.51	0.96	3596	9.9	370	43.8	29.2
				180	4.89	0.96	3905	11.8	275	65.7	43.8
				240	5.09	1.02	4461	13.5	230	87.6	58.4
				300	5.08	1.21	4565	14.5	205	109.5	73.0
				360	5.20	1.26	4415	14.1	195	131.4	87.6
				420	4.99	1.07	4231	13.0	155	153.3	102.2
				480	4.95	1.22	4949	15.0	140	175.2	116.8
4	Batch	Quarter stuff	Heavy rods	30	4.03	0.62	3151	8.8	460	20.3	13.5
				60	3.97	0.90	4293	9.8	350	40.6	27.1
				90	4.21	1.10	5295	11.5	265	60.9	40.6
				120	3.61	1.14	4978	10.0	220	81.2	54.1
				150	3.37	1.25	4376	17.3	130	101.5	67.7

Since strength data from hand sheets must be converted to machine-made sheets to be of practical value, Table 10 was prepared to indicate the difference in the various strength phenomena between hand-made sheets and laboratory machine-made sheets when the same kind of rope stock was used. The table shows in general that as milling proceeds the hand-made sheets show higher bursting strength with increasing differences; higher tearing strength with increasing differences; and lower tensile strength with decreasing differences.

CONTINUOUS RUN No. 1

In order to duplicate the results of the batch runs in a continuous test, a run was made on quarter stock using the heavy rods. Since the equivalent of only 50 pounds of dry stock was available and since the mill holds the equivalent of 25 pounds of dry stock at 6 per cent consistence, the supply was not sufficient to bring the operation to an equilibrium. However, the test was made by starting with the mill a little more than half full, milling for about 15 minutes and then starting the feed. Freeness tests were made to control the effluent. By feeding the pulp at the rate of 8 1-3 pounds, dry, per hour an attempt was made to duplicate the 90 minute sample in batch run No. 4, the freeness of which was 265. Pulp from the continuous run was saved between freeness tests of 250 and 240.

The sheet appeared well hydrated and all strength properties were high in numerical value.

CONCLUSIONS:

The results of the tests show definitely that with rods of proper size and weight, the fibers are greatly hydrated without excessive cutting; that the large shives are reduced considerably more by rod milling than by the usual beating method; that in all probability a paper stronger in every respect can be prepared commercially in the rod mill than by the usual method; and it is probable that less power would be consumed in preparing a given amount of

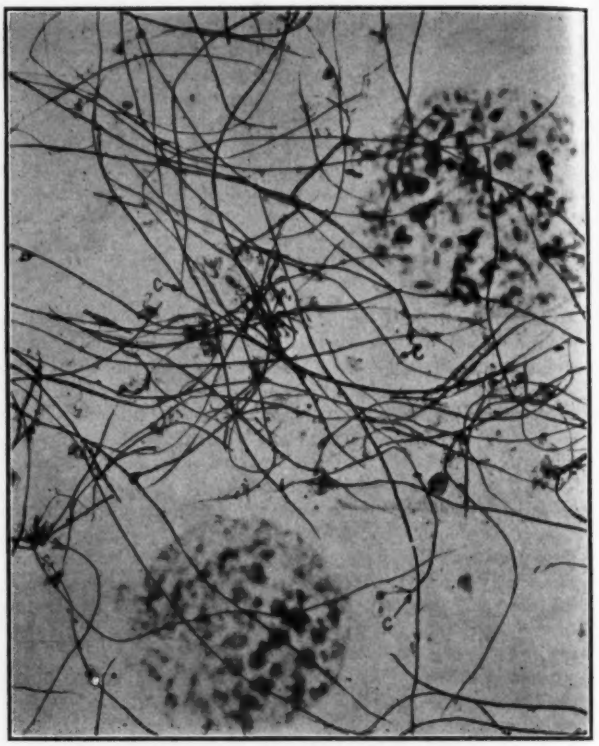

PLATE 22.
Manila hemp rope stock. Wet broke, mill beaten.

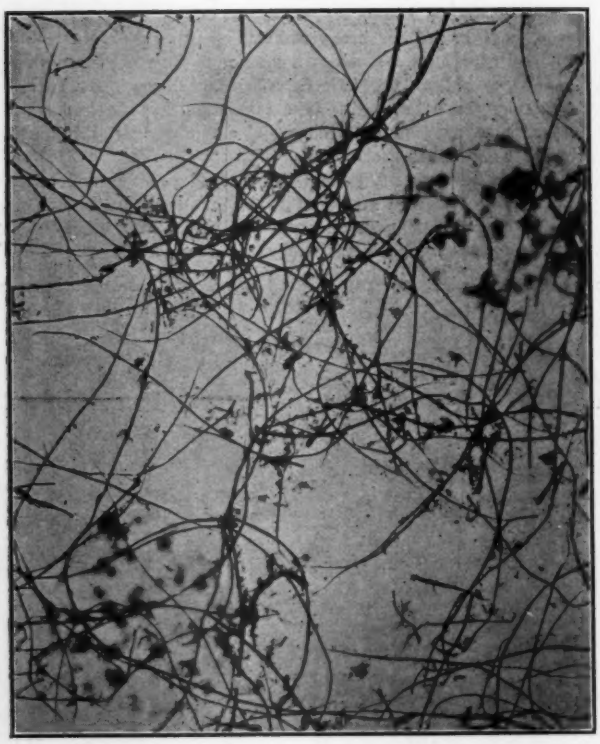

PLATE 21.
Manila hemp rope stock. Batch No. 3. Milled 480 minutes.

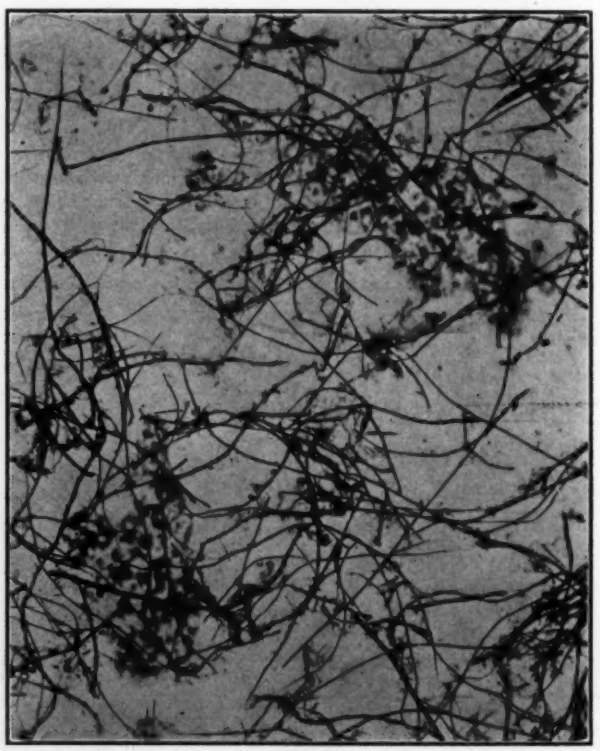

PLATE 23.
Manila hemp rope stock. Batch No. 4. Milled 150 minutes.

TABLE 10

COMPARISON OF STRENGTHS, HAND-MADE SHEETS VERSUS LABORATORY MACHINE-MADE SHEETS FROM IDENTICAL ROPE STOCKS

Stock used	Treatment	Made by	Tearing factor, gms./lb./ream	Bursting factor, pts./lb./ream	Tensile breaking length, meters
Mill beaten	None	Hand	4.65	.92	3453
Mill beaten	None	Machine	4.46	.73	4311
Washed unbeated	240 minutes Light rods	Hand	4.58	.93	3685
Washed unbeated	240 minutes Light rods	Machine	4.37	.81	4757
Washed and mill brushed	480 minutes Light rods	Hand	4.95	1.22	4949
Washed and mill brushed	480 minutes Light rods	Machine	3.00	.83	5243
Washed unbeaten	150 minutes Heavy rods	Hand	3.37	1.25	4376
Washed unbeaten	150 minutes Heavy rods	Machine	2.48	.83	4670

pulp to a definite condition in a commercial rod mill than in a beater.

The differences in the fiber shown in the photomicrographs are apparent on careful examination. The fiber in the 240 minute sample of quarter stock (run No. 2) milled with light rods (Pl. 20) appears longest and least affected. The half stock milled 480 minutes (run No. 3 and Pl. 21) appears fairly long and the fibers are not excessively injured. The fibers of the wet broke (Pl. 22) are possibly slightly less affected than those of run No. 3, but some cutting is in evidence, and when milled for 150 minutes with heavy rods (run No. 4 and Pl. 23) the fiber has been injured the most by the splitting off of particles accompanied by a reduction in length.

None of the machine-made sheets were prepared under conditions conducive to the highest quality. (See Table 9.) The machine made sheet from batch No. 2 was prepared to approximate that prepared from the wet broke of the mill. Batch runs 3 and 4 were carried too far in order to establish the various strength develolpment curves. The continuous milling run controlled by freeness determinations, produced the best machine-made sheets of the series, except for the cutting effect of the heavy rods. Its properties showed superiority over the mill beaten stock in all respects except tearing strength which was slightly lower. The best paper would probably have been produced from a 6 hour run on quarter stock, or a 5 hour run on half stock using the light rods.

Refining Sulphite Screenings

In March, 1927, the Forests Products Laboratory made runs in the rod mill using heavy rods to show its effectivness in refining sulphite screenings. The material was furnished by the Marathon Paper Mills Company, and consisted of fiber bundles, knots, and uncooked chips from hemlock wood pulped by a modified Decker process.

A preliminary batch run was first made to determine the rate at which the refining proceeded. The equivalent of 16.7 pounds of oven-dry screenings, with water added to bring the consistence to 4 per cent O. D. was used. Samples taken out at 15, 30 and 45 minute intervals for hand sheets and freeness tests, developed the following results:

Time in mill (minutes)	15	30	45
Bursting strength factor (pts./lb./ream—Ashcroft)	0.393	0.347	0.326
Freeness—Green type—c.c.	630	360	240

The 15 minute sample was considered satisfactory. Allowing twice the milling time for a continuous run, the screenings were passed through the mill at the rate of 34 pounds of dry material per hour. The power consumption is calculated as follows:

Average continuous power input = 12.3 h.p.

$$\frac{34 \times 24}{2000} = .408 \text{ tons per day}$$

$$\frac{12.3}{.408} = 30.2 \text{ horsepower-days per ton 3' x 5' mill continuous operation.}$$

$$\frac{30.2}{3} = 10 \text{ horsepower-days per ton 6' x 12' mill continuous operation.}$$

This product is given in Table 11 as sample No. 1.

To show the quality of the product obtained after further refining, the material at the end of the run was left in the mill

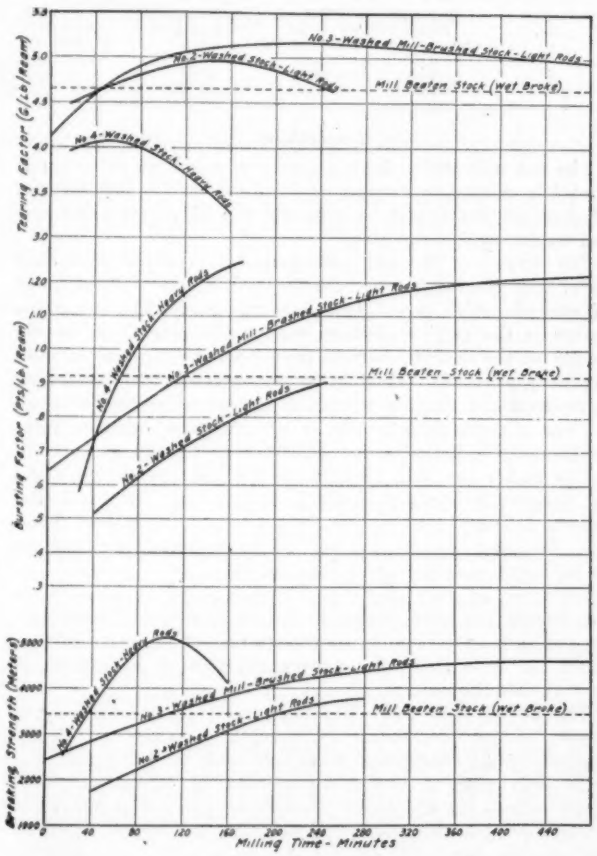
Tearing Factor (G/Lb/Ream)
Bursting Factor (Pts/Lb/Ream)
Breaking Strength (Meters)
Milling Time - Minutes
No 3-Washed Mill-Brushed Stock-Light Rods
No 2-Washed Stock-Light Rods
Mill Beaten Stock (Wet Broke)
No 4-Washed Stock-Heavy Rods
No 4-Washed Stock-Heavy Rods
No 3-Washed Mill-Brushed Stock-Light Rods
No 3-Washed Mill-Brushed Stock-Light Rods
Mill Beaten Stock (Wet Broke)
No 2-Washed Stock-Light Rods
No 4-Washed Stock-Heavy Rods
No 3-Washed Mill-Brushed Stock-Light Rods
Mill Beaten Stock (Wet Broke)
No 2-Washed Stock-Light Rods

FIG. 3

Strength Development Curves. Commercial Rope Stock. Consistence Constant at 6 per cent. Hand Made Sheets.

and refined to a freeness of 350 in order to approximate the 30 minute sample of the batch run. The machine-made sheet from this pulp is given in Table 11 as sample II. The power consumption was twice that of sample No. 1 or 60.4 horsepower-days per ton, or for a large mill, 20.1 horsepower-days per ton.

In a later run the screenings were fed through the mill at the rate of 80 pounds dry per hour and refined to approximate more nearly average mill practice. This gave a coarser product than sample No. 1 and with less power consumption. The average power input was 12.15 horsepower.

The daily production is

$$\frac{80 \times 24}{2000} = .960 \text{ tons per day,}$$

and the power consumption

$$\frac{12.15}{960} = 12.7 \text{ horsepower-days per ton for a 3' x 5' mill operating continuously.}$$

or

$$\frac{12.7}{3} = 4.2 \text{ horsepower-days per ton for the 6' x 12' mill operating continuously.}$$

The sheet made from this stock is given in Table 11 as sample No. III.

Strength tests on the three samples of Laboratory machine made paper are given in Table 11 and show that even sample No. I had been considerably over-treated.

TABLE 11
STRENGTH TESTS ON THREE SAMPLES OF LABORATORY MACHINE-MADE PAPER FROM SULPHITE SCREENINGS

Sample No.	Bursting factor pts./lb./ream	Tearing factor gms./lb./ream	Tensile breaking length meters	Stretch per cent
I	0.57	1.11	4449	2.04
II	0.46	0.80	4060	1.93
III	0.60	1.72	3745	3.57

Conclusions

The rod mill studies have shown that a less severe action is needed in developing strength qualities than in the disintegration of chips or fiber bundles and that the use of a high consistence and lighter rods is desirable.

The studies in the rod milling of kraft pulp indicate that under any given milling conditions there results a development of strength which passes through a maximum. This maximum varies as the pulp consistence varies. It also varies as the weight of the milling elements (rods) per unit surface of milling elements varies. Thus by proper selection and control of consistence and ratio of weight to surface of milling elements a given strength property can be brought to a maximum value considerably higher than can otherwise be reached.

The higher the pulp consistence, the less the cutting effect as compared to the hydration. In beating kraft pulp, it is important to keep the consistence above 4 per cent oven-dry. Below this, the power consumption per ton is higher and the tendency to excessive smashing and cutting of the fiber is greater. The consumption of power per ton of pulp required to refine to approximately the same degree as in kraft wrapping paper, decreased with an increase in consistence up to 8 per cent and then increased. It is likely that consistencies from 6 per cent to 18 per cent are the most satisfactory for this work.

The use of light rods showed the same general tendency in regard to the development of strength properties as the increasing of the consistence. Compared with the heavy rods, the light rods gave a slower development of strength, with a slight increase in the power consumption per ton of pulp; but greater strength development as shown by an increase in all of the strength tests. By varying the consistence and weight of rods, any desired effect between wide limits can be obtained.

When compared with commercial beaters, the rod mill used about half of the power consumption per ton of pulp required to produce a sheet of kraft wrapping paper that was slightly stronger than the commercial sheet. In preparing greaseproof paper, slightly more power was used to produce a more hydrated sheet.

In processing manila hemp rope stock, the rod mill gave a high degree of hydration without excessively injuring the fiber, and reduced the shives effectively.

Sulphite screenings were refined with a power consumption of 4, 10 and 20 horsepower-days per ton of pulp, the product varying in quality from that of the usual degree of refinement to a pulp in which the shives were completely reduced.

The foregoing work has been done at such intervals as opportunity presented, largely through the cooperation of potential users. There is urgent need of further fundamental study not only to understand the action of the rod mill, but to point the way to an understanding of the fundamental nature of the various strength developments.

With a complete understanding of the effects of all the milling variables, many of which have not yet been studied, upon the various physical properties of commercial pulps, it seems probable that mills can be designed to produce specific desired properties of optimum value in the finished sheet with a minimum consumption of energy.

Digester Insulation and Heat Savings

SPECIAL INQUIRY No. 107

A member writes: "We have had considerable discussion in our mill concerning the insulation of the digester so as to conserve heat. There is some information available but we have nothing tangible upon which to form an opinion."

Answers to this inquiry should give the following information:

1. Process used:
   a. Sulphite,
   b. Soda,
   c. Sulphate,
   d. Other.
2. Size of digester (surface area preferred).
3. Maximum temperature difference between the inside and outside of the digester.
4. Thickness of lining (if any is used).
5. Kind and thickness of insulation.
6. If steam is metered to the digester, what is the reduction in steam consumption per ton of pulp due to the insulation?

This inquiry will be handled under the Service to Members plan and a transcript of the responses will be sent to all who contribute to this report. Send replies to

R. G. MACDONALD, Sec. TAPPI,
18 E. 41st street, New York.

Sulphate and Soda Mill Effluent Losses

SPECIAL INQUIRY No. 108

A member writes: "Have you any accurate information regarding the amount of fiber and soda in the mill effluent of *sulphate* and *soda* mills?

"As a result of daily tests of our waste waters, we find

1. Average fiber loss to be about one pound per 1,000 gallons.
2. Soda content to average from 1½ to 1¾ pounds per 1,000 gallons.
3. Oxygen demand to range from 450 to 500 parts per million.
4. The average number of gallons of waste water per ton of pulp and paper, being discharged from the mill is 20,000.

"We would like, if possible, to secure similar data from other mills and to know if any mill having wastes as low or lower, is having trouble with its State Board of Health or Conservation Department."

This inquiry will be handled under the Service to Members plan and all contributing to this report will receive a copy of the transcript. Send replies to

R. G. MACDONALD, Sec. TAPPI,
18 E. 41st street, New York.

France Wants Reduced Tariff on Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 19, 1928.—A matter of very considerable interest to the paper trade of the United States has just come to attention here in connection with the communication which the French Government has made to the State Department, in which it asks for a tariff reduction on some 21 items.

This action of the French government in making such a request is said to be unprecedented. At any rate there are three paper items among the others, including onionskin, cigarette paper and what the French term "sulphurized" paper. This latter means either parchment or imitation parchment paper.

The State Department has asked the Tariff Commission for some information on the subject and the Tariff Commission, it is understood, has started a preliminary study. The paper angle of the study will be handled by Franklin H. Smith, who is chief of the lumber and paper division of the Tariff Commission.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Edited by
THOS. J. BURKE, C. A., Sec.-Treas.

Wanted—Accurate Accounting of Accident Costs*

By Dr. C. E. French [1]

In their efforts to show that accidents cost money, safety engineers frequently find that general arguments are met with indifference. In this article Dr. French presents a list of the items of accident costs which could be accounted for. Another article in an early issue will present an accountant's view of this subject.

The problem of accident costs cannot be considered apart from the whole problem of production costs. Whether this is recognized or not, they really are part and parcel of the greater problem. And there never was a time when it behooved industrial executives more than now to know what costs are and to make headway in their reduction.

It has become a question of industrial profits. In the majority of American corporations profits are represented by what they have been able to save through the elimination of waste and the reduction of costs. For 1928 profits will consist largely of what business may succeed in saving.

Let us settle, once for all, this question of where the burden of accident costs, major or minor, eventually falls. There is no escape from the fact that they are borne by the product. This is equally true of all expenditures of a plant, with the exception of dividends. No matter under what head they may be listed, no matter if the sum has been expended wisely or unwisely, whether or not it has contributed its expected share to manufacture of the product, it must come out of receipts and be borne as a charge on the product. This net cost is higher, consequently, by reason of any items of waste.

An Inexplicable Attitude

But in their efforts to show that accidents cost money and that accident prevention work pays, safety engineers often have encountered what seems a strange and inexplicable indifference to this kind of argument. This attitude, however, is not peculiar to accident costs, but has been true with respect to the whole field of production costs. Until recent years the average American business man has shown an amazing indifference to his costs of doing business and, in fact, hardly knew what they really were.

Robert S. Denham, cost accountant and engineer, in an article in "Industrial Management," in February, 1922, said of the average business man: "He seldom included in the overhead a stipulated amount for his own salary, usually taking the position that he was in business for profits and should pay his living expenses from these. Depreciation was rarely thought of and more rarely included. Interest on investment as an item of expense was unheard of. If he owned the building in which his factory was located, he boasted that he had no rent to pay. To this day many manufacturers and merchants are of the opinion that the salary of the proprietor, rent of the owned building, depreciation and interest, are items which may be included or omitted at the choice of the management."

This vagueness and confusion regarding items entering into the cost of production is illustrated by the prevailing attitude regarding overhead expense. Another engineer accountant says of this. "Most engineers appreciate that interest, taxes and insurance are burdens which have to be carried and take them, more or less, into consideration in estimating. But the smaller items are often ignored or passed over lightly, and the general practice is to add 100 per cent to the cost of labor plus material as allowance for total overhead. Such a figure may or may not be right and the chances are that it is too low."

Confronted with this situation as regards cost items that are generally recognized as belonging to production costs, it is little wonder that the direct and indirect charges resulting from major and minor accidents have been a long time finding their way as recognized items of the cost of production. It is my personal feeling that it was not until the enactment of Workmen's Compensation legislation that the dollars and cents importance of accidents was brought home to industry and resulted in the inauguration of the modern safety organization.

In the effort to secure a more accurate accounting of accident costs the more obscure problem comes with the so-called indirect secondary expense items; those items which are not covered by insurance. Just how much these amount to nobody knows exactly, but the evidence so far shows that they amount to several times more than the direct compensation cost. These are the costs it is essential to nail down and account for.

Several serious attempts have been made to estimate this indirect cost. The National Safety Council has estimated the total cost of accidents to be five times the compensation paid. A more recent investigation was made by H. W. Heinrich, assistant superintendent, Travelers Insurance Company, the results of which appeared in the National Safety News. From an analysis of 5,000 accident cases, he draws the conclusion that the incidental cost of accidents paid in various ways by the employer in addition to the regular compensation is four times the compensation and liability claims and the medical treatment. This amply bears out the estimate of the Council.

What this means can be realized more readily if we stop to remember that employers of the state of New Jersey, in the

* From National Safety News.
[1] Director of Training, Standard Oil Co. of New Jersey, Bayonne Works.

month of November, 1927, paid out in accident compensation $543,257. On the basis of the above estimates, therefore, they incurred a total loss on account of accidents of $2,216,285. Whether we accept these figures or not, we are surely not in a position to challenge them until we have more accurate systems of accounting to rely upon.

What These Items Are

The question naturally arises, just what are these items which go to make up the incidental or secondary costs of accidents and what should be included in an accounting of the total cost? Probably no list can or should be set down which might apply to all plants, and probably it is better that each plant work this out for itself. Nevertheless I will outline here what, in my opinion, are the important items of accident cost, and I am further convinced that all can be reasonably accounted for.

1—Direct Costs
- A—State or company liability or compensation.
- B—Accident benefits, if paid.
- C—Medical and hospital expense (not company staff).

2—Incidental or Indirect Costs
- A—Wages paid injured while not working (not included as benefits).
- B—Time lost from the job in dressings and first aid treatments resulting from minor accidents.
- C—Time lost from their work by employees not injured.
- D—Time spent on accidents by executive and supervisory forces.
- E—Time lost by machinery and equipment as result of accidents.
- F—Miscellaneous Costs.

1—Injury to machinery, tools or equipment.
2—Materials spoiled or wasted.
3—Interference with production.
4—Substitution of untrained employees.

In addition to these more important items there are many other factors which might well receive consideration. The expense of a plant medical organization has purposely been omitted for this must be considered, not as a direct result of accident, but as preventive expenditure calculated to reduce accident costs.

It seems that the items I have listed are the more obvious ones and are subject to measurement and strict accounting. Unless dealt with otherwise, they are the ones concealed in wages and salaries, materials, repair and equipment charges, or possibly gathered into that cover for a multitude of sins, the overhead. There is no reason why they should not be as definitely accounted for as any other item of so-called overhead expense.

Considering in detail the items listed under "Incidental Costs," they become more illuminating.

Wages paid to an employee who is not working because of accident, or who may be on light work, represent a total loss, as far as production is concerned. The Unit labor cost of the goods produced is increased thereby.

The cost of time lost by other employees is an item far larger than would at first appear. All employees within the immediate locality are affected. Curiosity, sympathy, assistance to the injured employee and services as witnesses—all these are responsible for time lost from the regular productive work on the part of a variable number of employees. I believe that it is possible to account for this time within a working degree of accuracy. In one accident recently investigated at our plant, 15 employees were interviewed, involving absence from the job from one hour or two hours each at an approximate average rate of 77 cents per hour. This should be definitely charged to that particular accident and added to the bill.

The time lost by the executive and supervisory forces is an item having greater consequences in production than may be represented in the pure monetary loss. The accident referred to above, from start to finish, involved from one to four hours each spent by one assistant manager, one superintendent, two assistant superintendents and one yard master. Their time, as far as this accident was concerned, was a total loss to the task of directing and facilitating production, which is their main concern and the sphere in which their activities are most valuable. Certainly if this item must be covered in the general overhead, a conservative estimate of the sum involved should be made and assigned to its proper division.

Finally, most accidents involve lost time by machinery, injury to tools or equipment, or waste of material. To the extent that these may be definitely determined, the loss should be charged to an appropriate accident account.

Only by following these items out to the last detail shall we eventually get the facts about our accident costs and the measure of the burden which they place upon production.

Any employer who is interested in reducing cost of production must be interested in preventing accidents. A proper accounting system will show what accidents actually are costing. The only plant where accidents do not enter into the cost of production is that plant which has no accidents.

Will It Pay?

The question of whether it will pay to attempt to reduce accident costs is exactly on a par with the problem of reducing any other kind of costs. If the amount involved is serious enough, it will pay to employ a full-time safety engineer and build up a staff. If not large enough to justify this expenditure, then a consultant or outside expert may be called in. Certainly we are justified in saying that the right amount judiciously expended will return a profit. It is not a question of a large plant or small plant. Each is equally interested in survival, each is compelled to cut costs and eliminate wastes. Accident prevention is a problem of (1) knowing your costs and (2) taking intelligent measures to reduce them.

Leipzig Fair Dates Aug. 25 to Sept. 1

The Leipzig Fair, the largest trade exposition in the world, will be held this fall from August 25 to September 1. The Fair will attract buyers from forty-three countries, while a score of countries will send some 10,000 exhibits. America's growing activity in world markets is indicated by her sending upwards of 2,000 buyers and some fifty exhibits to this great world market place.

The Fair is held at the height of the American tourist season and may be conveniently included in a European trip. The exposition, which includes every product of modern industrial life, is so arranged that one can see more in a day at Leipzig than in a month's travel to different markets. A visitor is enabled completely to review his own trade and its allied branches, gaining new ideas, new friends and profitable business contacts.

The Leipzig Fair is approaching its 700th anniversary. Originally a picturesque medieval trading center, it has grown with the times into the most cosmopolitan industrial exchange in the world. Almost 100 special exposition buildings are used for the displays forming a town in itself. From long experience the exhibits are so assembled that visitors can make a close and critical scrutiny of thousands of objects in the shortest possible time. The Fair is in every detail a model of efficiency.

America has long recognized the importance of the Leipzig Fair. A century ago American buyers crossed the Atlantic in sailing vessels to attend the Fair. Today representative business men from all parts of the United States regularly visit Leipzig, spending millions of dollars in purchases. The possibility of selling American products abroad to widely scattered world markets through the Leipzig Fair has only recently been realized. The exhibits of American machinery and novelties of many kinds are now much in evidence, while a year ago American automobiles of many kinds completely dominated the international show.

Information concerning the Fair may be obtained by addressing the Leipzig Trade Fair, Inc., 11 West 42nd street, New York City.

New Leadership in Business*

By Edward A. Filene, Pres., William Filene's Sons Co.

In the future, most of the profits will be made by those business men who substitute facts for opinions as a basis for their policies and their decisions. "Profitless prosperity"—a phrase often used to describe the condition of American business during the past few years—is not strictly accurate. There have been plenty of profits, but the large profits have been made by the few. Forty per cent of all manufacturing concerns have lost money or barely broken even. Most of the others have made but little.

In 1925, the last year for which complete figures are available, one-fifth of one per cent of our corporations made 52 per cent of the total profit. For each dollar made by these large and successful companies, some less well managed concern lost 22 cents.

Even more striking is the fact that 95 manufacturing corporations—only one-fiftieth of one per cent of the whole—made 45.5 per cent of all the profits in their particular branches of industry.

More recent figures, while incomplete, indicate that the lion's share of the profits is still going to the large scientifically organized businesses.

Trend Will Be More Pronounced

It is generally agreed by thoughtful business men that this trend will become more pronounced and that the most profitable concerns will be those which adopt scientific methods of mass production and mass distribution. Of necessity such concerns will be large.

The business leaders of today who will survive as the leaders of tomorrow will of necessity be open minded, adaptable men.

The mere increase in the size of business organizations will be enough to disqualify many of the old time leaders. Many times I have seen a man guide an enterprise successfully through its struggling stages and build it up to the point where it was doing a business of, say, half a million dollars a year, and then fail miserably when its sales again doubled or quadrupled.

The man who is nursing a small business must give close attention to every detail. He can seldom afford to hire expert specialists to help him, therefore he must, quite properly, make shift to decide all questions himself, from the psychology of employees, to matter of finance, and the buying, selling and packing of his commodities.

Just as the virtues of youth may become the vices of old age, so the qualities of leadership which are virtues when a business is small may well become vices when the business grows large. The owner finds that he no longer has time to attend to all of the details himself, yet too often he mentally is unable to delegate those details. They continue to take the time and attention which should be given to matters of more importance. The very existence of the business depends upon correct diagnosis of the future. What will the trend of prices be? Shall we buy ahead? How are we to finance our increased business? What effect will European affairs have on our business? These and many similar ones are questions which the man buried in detail should, but often cannot, answer. Many a man has failed because, lacking facts on which to base his judgment, he did not correctly answer such questions as these.

I have thus briefly sketched the present status and the future developments of mass production and mass distribution in order to give some idea of the problems which the leaders of the future will have to solve, and the characteristics which they, as the new leaders, will have to possess.

Must Be Internationally Minded

Right now I want to touch on some of the international implications of mass production and mass distribution so that it will be apparent why the leader of the future must be internationally minded and not insular minded.

1—Mass production is turning out a surplus of goods beyond our present power to consume. Our power to consume will increase with ever increasing wages, but increasing use of mass production will probably for a long time ahead provide us with a surplus. To maintain our prosperity we shall have to export this surplus, else our producers will be driven to compete so strongly with each other that our prosperity will be destroyed.

2—But in the end other countries can pay for our surplus only by exporting to us their surpluses. Therefore we cannot continue indefinitely to be prosperous unless the rest of the world adopts our methods of mass production and mass distribution, so that they will have surpluses, made as efficiently as ours, which they can sell to us at a price we can afford to pay, in exchange for our surpluses.

3—From this it is apparent that for any nation to be prosperous it must have prosperous neighbors.

In the pioneer stage of American business, it was generally enough for a leader to think in terms of "*my* business." Today that is not enough to guarantee success. The new leaders must think in terms of *all* business—and not merely all *American* business but *world* business.

Principal Characteristics

From all that I have said about how business is developing, it should be quite clear what type of man the new leader will be. Let me list the principal characteristics categorically:

1—He will base his policies and decisions on facts—not on emotions or opinions. He will use the best experts, laboratories, market surveys, statistics, trade associations, government research agencies, and highly skilled associates.

2—He will delegate details so that he will have time to consider the broader problems and future trends.

3—He will be internationally minded. He will see that his business is closely inter-related with, and dependent upon, the state of business in Europe and even farther away places. He will help other countries to be prosperous so that by buying his surpluses they will help him and his employees to be prosperous.

4—He will realize the basic fact that business is service and that a business can prosper only as it serves.

5—He will realize the possibilities that exist in still further development of mass methods of production and distribution. He will realize that there is as yet no apparent limit to the extent to which economies of making and selling can be carried. Every time he succeeds in reducing a cost he will be stimulated to search out still further ways to reduce that cost. He will not assume that because the cost has once, or a dozen times, been reduced, no further opportunities along those lines exist.

Changes Rapidly Occurring

I do not have to emphasize to such a group of progressive business men as are here tonight that I have not been theorizing. There are in nearly every branch of business certain concerns which are well along in their development of mass production and mass distribution. Those who are guiding these businesses are typical of what the leaders of the future will be. As a business man facing the problems of our own business daily, yet in constant touch with leaders in other branches of business, I realize how rapidly the changes are occurring.

The average business man has shown by his successes in the past that he has sufficient capacity to become a leader of the new type of business, *provided only that he realizes the imperative need of substituting scientifically determined facts for the mere opinions which, until recently, were usually adequate to secure success.*

* Extracts from address delivered before the Brooklyn Chamber of Commerce.

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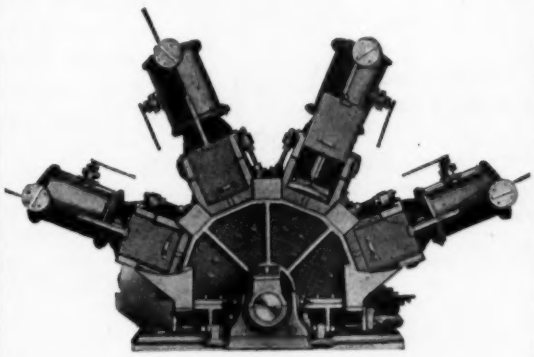

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That does not mean that he will need less initiative or courage. On the contrary, he will need, and have, more of these qualities than were possessed by even the most successful autocrats of the past. But with facts as a basis his initiative will be guided toward surer goals, and his courage will be the courage of convictions founded on facts rather than the courage of ignorance.

It has been well said that American success in production can best be measured by the heaps of discarded machinery. I look forward to the time when there will be still greater heaps of discarded opinions.

There is no better business man in the world than the American. In fact I know of none who, all around, is so skilled.

Therefore, by fitting himself to be a leader in the new type of business, he will not only make more money for himself and his employees, but by better service to the public, which is compulsory for success under coming conditions, he will become a more useful public servant and a better and more useful citizen.

Will You Make Profits in 1928?*

By Ray Vance

The director of a country bank in Oregon wrote me the other day, "Reams upon reams have been written about the farm problem, which of course, became a bank problem, but the simple fact is that the problem was one of the restoration of a profit margin." Most of us are glad to admit that manufacturing is in a better condition today than agriculture, but the problem of restoring a margin of profit which has somehow slipped away in the past two years, is by no means a stranger to the thoughts of most of us today.

Possibly the question, "Will you make profits in 1928?" sounds foolish when most of us are still wrestling with the question as to whether we made any profits in 1927. However, we have just passed the arbitrarily fixed holiday which furnishes the excuse for a "review and forecast" on almost every subject under the sun by men of all shades and degrees of opinion, so we might as well do a little thinking along this most intensely interesting line.

Sometimes when I read the list of annual reviews and forecasts, I cannot help thinking that most of the writers have been reading Tennyson's poem and are thoroughly converted to the idea of "Ring Out the Old, Ring In the New." I have no desire to subtract the pleasures of optimism from any business man's viewpoint. In fact, I believe that most of us would finish the average year with a better profit margin if we spent more of our time with our hopes and less of it with our fears. But there is a lot of difference between the dreamer who just goes on dreaming and the one who rolls up his sleeves to make his dreams come true.

Reassuring Factors

The year 1928 has opened with a lot of pleasantly reassuring factors in the business situation. Those who read my own article in last month's magazine will remember that I recounted a lot of them there and what few I may have missed have been amply covered by others treating the same subject. Apparently, the reasonably well-managed manufacturing concern would seem to have very little danger of failing to make a satisfactory profit margin in the coming year. Yet, strangely enough, all of these pleasant factors were present at the beginning of 1927 and, equally strange, if we should turn my question backward instead of forward and say, "Did you make satisfactory profits in 1927?" a very large percentage of the manufacturing concerns in the United States would have to answer in the negative.

Probably most of us remember a time some eight or nine years ago when about all that was necessary to make profits was to go through the motion of actively conducting a business. If we made a rapid turnover we got a profit that way. If we failed to make a rapid turnover, prices went up so fast that we made a profit anyway from eager buyers who came after our product without the intervention of any real salesmanship. Common sense tells us that that day has definitely passed. And if we do not believe the testimony of our common sense, then the cold facts of our income accounts and balance sheets for the year closed will be likely to give us a mental bump which we cannot disregard.

It is a really unfortunate fact that much of the business publicity today has come to center around such subjects as "The Miracle of American Prosperity." Recently one of our prominent business writers has published a series of articles in a magazine whose circulation runs into the millions telling how in some magical way the combination of American capital, labor and management has been able to repeal all previously known laws of economics. Every logical reason for the current period of high business activity, high wages and general expansion of the standard of living, is refused as being too easily understood, and over and over again the word "miraculous" is interjected into the description of what has been accomplished.

Without trying to detract in any way from the fact that 1928 ought to offer abundant rewards for intelligent effort, it seems to me time to call a halt on this theory that business profits are being protected by some magical development outside of our own control, that all we have to do is to go on believing in the formula and pushing ahead to any kind of production with implicit faith that we are in a movement where lack of success is impossible. Henry Ford went on making Model "T" cars according to the old formula and selling them according to his old formula, while other manufacturers learned to make more convenient and better looking vehicles at a price which closely approximated his, and eventually the formula failed rather dismally. Ford's accumulated millions were able to absorb the resulting losses and possibly he will return to his old position, but not very many of us have Henry Ford's capacity for standing a financial reverse.

Exhausted Profit Making Possibilities

In spite of all our favorable fundamental conditions, the reports of our accountants are showing more and more that the formula of mass production in the plant and blind dependence on the consumers' market has as completely exhausted its profit making possibilities as had the old Ford model car. If we all go ahead until this results in a general period of doing business at a loss, the country as a whole undoubtedly has enough wealth and resources to come back after a time as the Ford Motor Company is doing. But a lot of us as individuals may easily find the losses too big to absorb. If we are going to make profits out of manufacturing in the year 1928, we are going to have one of the most appropriate years of recent times for the application of intelligent budgeting combined with intelligent selling, and I suspect that there will be times during the year when all the optimism that we can muster will be necessary to keep that selling in line with the kind of a price list that makes profits possible.

* Manufacturers News.

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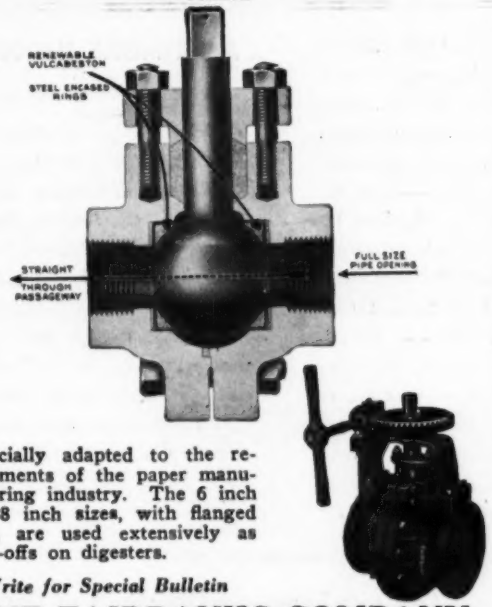

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SUMMARY

Cigarette paper .....7 bls., 497 cs.
Wall paper .....31 bls., 6 cs.
Paper hangings .....11 bls., 17 cs.
News print .....1,074 rolls
Printing paper .....49 rolls, 179 cs.
Wrapping paper .....20 rolls
Packing paper .....3 bls., 25 cs.
Photo paper .....6 cs.
Tissue paper .....5 cs.
Baryta coated paper.....116 cs.
Metal coated paper .....17 cs.
Surface coated paper .....30 cs.
Writing paper .....7 cs.
Decalcomania paper .....64 cs.
Stencil paper and ink.....84 cs.
Colored paper .....16 cs.
Drawing paper .....28 cs.
Filter paper .....259. bls., 80 cs.
Pergamyn paper .....8 cs.
Straw board .....234 rolls
Calender roll paper .....31 pkgs.
Miscellaneous paper ....142 rolls, 164 bls., 160 cs.

CIGARETTE PAPER

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Max Spiegel & Son Co., Inc., Pr. Harrison, Genoa, 7 bls.
P. J. Schweitzer, Pr. Harrison, Marseilles, 95 cs.
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Standard Products Corp., France, Havre, 81 cs.

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Keller Dorian Paper Co., France, Havre, 8 cs.
Hudson Forwarding & Shipping Co., France, Havre, 1 cs.
Whiting & Patterson Co., Homeric, Southampton, 5 cs.

NEWS PRINT

Perkins-Goodwin & Co., Cleveland, Hamburg, 437 rolls.
Parsons & Whittemore, Inc., Cleveland, Hamburg, 637 rolls.

PRINTING PAPER

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E. Dietzgen & Co., Breedyk, Rotterdam, 142 cs.
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E. Daiber, Tomalva, Antwerp, 11 cs.

DRAWING PAPER

Keuffel & Esser Co., Cleveland, Hamburg, 25 cs.
H. Reeve Angel & Co., Inc., Minnewaska, London, 3 cs.

FILTER PAPER

E. Fougera & Co., Roussillon, Bordeaux, 66 cs.
H. Reeve Angel & Co., Inc., Minnewaska, London, 11 cs.
J. Manheimer, Homeric, Southampton, 239 bls.
A. Giese & Son, Homeric, Southampton, 20 bls.
Taiyo Trading Co., Toba Maru, Nagoya, 3 cs.

PERGAMYN PAPER

Central Union Trust Co., Cleveland, Hamburg, 8 cs.

STRAW BOARD

Haas Bros., Breedyk, Rotterdam, 114 rolls.
A. Vuyk, Breedyk, Rotterdam, 120 rolls.

CALENDER ROLL PAPER

Heemsoth, Basse & Co., Breedyk, Rotterdam, 31 pkgs.

MISCELLANEOUS PAPER

Guibout Freres, France, Havre, 6 cs.
Hensel, Bruckman & Lorbacher, France, Havre, 10 cs.
Coenca Morrison & Co., France, Havre, 1 cs.
Keller-Dorian Paper Co., Homeric, Southampton, 1 cs.
National City Bank, United States, Copenhagen, 142 rolls, 164 bls.
Old Master Paper & Pulp Corp., Cleveland, Hamburg, 7 cs.
British American Tobacco Co., Rochambeau, Havre, 50 cs.
Standard Products Corp., Rochambeau, Havre, 61 cs.
Hensel, Bruckman & Lorbacher, Rochambeau, Havre, 11 cs.
S. Gilbert, G. Washington, Bremen, 13 cs.

RAGS, BAGGINGS, ETC.

J. Cohen Son Co., Samaria, Liverpool, 17 bls. rag cuttings.
C. R. Spence & Co., Anacortes, Dublin, 126 bls. rags.
Castle & Overton, United States, Copenhagen, 205 bls. rags.
Castle & Overton, United States, Copenhagen, 45 bls. bagging.
Amsinck, Sonne & Co., Inc., Cleveland, Hamburg, 36 bls. rags.
A. W. Fenton, Inc., Cleveland, Hamburg, 46 bls. rags.
A. H. Searle, Inc., Caledonia, Glasgow, 104 bls. paper stock.
G. W. Millar & Co., Inc., Tomalva, Antwerp, 7 bls. flax waste.
A. W. Fenton, Inc., Schodack, Havre, 114 bls. rags.
V. Galaup, Schodack, Havre, 148 bls. rags.
V. Galaup, Schodack, Dunkirk, 94 bls. rags.
International Mercantile Marine, Schodack, Dunkirk, 122 bls. rags.
Katzenstein & Keene, Inc., Schodack, Dunkirk, 116 bls. rags.
Whaling Waste Products Co., Schodack, Dunkirk, 7 bls. rags.
State Bank, Minnewaska, London, 12 bls. rags.
R. F. Downing & Co., Minnewaska, London, 7 bls. rags.
Equitable Trust Co., Tuscania, London, 35 bls. rags.
National City Bank, Sinaia, Constantinople, 790 bls. rags.
Amsinck, Sonne & Co., Inc., Misty Law, Alexandria, 51 bls. rags.
Brown Bros. & Co., Misty Law, Alexandria, 100 bls. rags.
A. H. Searle, Inc., London Mariner, London, 162 bls. rags.
A. H. Searle, Inc., London Mariner, London, 147 bls. bagging.
E. J. Keller Co., Inc., Ala, ——, 200 bls. flax waste.
Standard Products Corp., Hallfried, Genoa, 80 bls. old canvas.
Banco Com'l Italiane Trust Co., Hallfried, Leghorn, 157 bls. rags.
New England Waste Co., Hallfried, Barcelona, 150 bls. cotton waste.
Castle & Overton, Inc., Hallfried, Barcelona, 121 bls. rags.
W. Loewenthal & Co., Innoko, Rotterdam, 28 bls. rags.
Union Bank & Trust Co., Elzasier, Antwerp, 130 bls. bagging.
Banco Com'l Italiane Trust Co., Saucon, Leghorn, 408 bls. rags.
V. Galaup, Saucon, Leghorn, 123 bls. rags.
B. D. Kaplan, G. Washington, Bremen, 10 bls. rags.
E. Mayer, G. Washington, Bremen, 10 bls. rags.
Amsinck, Sonne & Co., Inc., G. Washington, Bremen. 8 bls. rags.
Interstate Trust Co., Alberta, Bari, 52 bls. rags.
Banco Com'l Italiane Trust Co., Alberta, Naples, 127 bls. rags.
E. J. Keller Co., Inc., MacKeesport, ——, 30 bls. bagging.
E. J. Keller Co., Inc., MacKeesport, ——, 27 bls. rags.
Castle & Overton, Inc., Capillo, South America, 113 bls. rags.

OLD ROPE

Brown Bros. & Co., Breedyk, Rotterdam, 58 bls.
A. H. Searle, Inc., Tuscania, London, 73 bls.
Furness, Withy & Co., London Mariner, London, 190 bls.
Banco Com'l Italiane Trust Co., Hallfried, Genoa, 214 bls.

CASEIN

National City Bank, Capillo, Buenos Aires, 250 bags, 33,060 lbs.
Karolith Corp., France, Havre, 67 bags.
T. M. Duche & Sons, Sardinian Prince, Buenos Aires, 250 bags, 15,000 kilos.
Equitable Trust Co., Rochambeau, Havre, 150 bags.

WOOD PULP

American Exchange Irving Trust Co., United States, Oslo, 1,600 bls. wood pulp.
E. M. Sergeant & Co., United States, Oslo, 160 bls. wood pulp.
Atterbury Bros., Inc., United States, Oslo, 500 bls. wood pulp.
Bulkley, Dunton & Co., Muenchen, ——, 125 bls. wood pulp.
Woodpulp Service Corp., Muenchen, Hamburg, 125 bls. kraft pulp.
Castle & Overton, Inc., Cleveland, Hamburg, 1,576 bls. wood pulp, 237 tons.
Sonora Timber Co., Hillegom, Guysboro, 1,348 cords wood pulp.
Sonora Timber Co., Isa, St. Peters, 1,060 cords wood pulp.
Bulkley, Dunton & Co., Kolsnaren, ——, 1,875 bls. wood pulp.
E. J. Keller Co., Inc., Victoria Maru, ——, 500 bls. wood pulp.

NORFOLK IMPORTS.

WEEK ENDING JUNE 16, 1928

N. Y. Trust Co., Ala, Antwerp, 81 bls. bagging.

NEWPORT NEWS IMPORTS.

WEEK ENDING JUNE 16, 1928

British American Tobacco Co., Ala, Antwerp, 50 rolls wrapping paper.

NEW ORLEANS IMPORTS

WEEK ENDING JUNE 16, 1928

Castle & Overton, Inc., Syros, France, 213 bls. rags.

MONTREAL IMPORTS

WEEK ENDING JUNE 16, 1928

Bulkley, Dunton & Co., Spica, ——, 8,800 bls. wood pulp.

(Continued on page 72)

Imports of Paper and Paper Stock

(*Continued from page 70*)

BOSTON IMPORTS

WEEK ENDING JUNE 16, 1928

Kalbfleisch Corp., Sardinian Prince, Buenos Aires, 417 bags casein, 55,159 lbs.
1st National Bank of Boston, Sardinian Prince, Buenos Aires, 1,667 bags casein, 100,020 kilos.
Castle & Overton, Inc., J. Skinner, Germany, 888 bls. wood pulp.
Bulkley, Dunton & Co., Lorain, ——, 150 bls. wood pulp.
Bulkley, Dunton & Co., America, ——, 2,800 bls. wood pulp.
Bulkley, Dunton & Co., Bockenheim, ——, 750 bls. wood pup.

PHILADELPHIA IMPORTS.

WEEK ENDING JUNE 16, 1928

G. W. Millar & Co., Inc., Tomalva, Antwerp, 335 bls. rags.
Equitable Trust Co., Tomalva, Antwerp, 126 bls. rags.
Wilkinson Bros. & Co., Inc., Tomalva, Antwerp, 4 cs. wrapping paper.
G. M. Graves Co., London Mariner, London, 115 bls. rags.
Brown Bros. & Co., London Mariner, London, 56 coils old rope.
Bank of The Manhattan Co., London Mariner, London, 170 bls. rags.
Bank of The Manhattan Co., London Mariner, London, 196 bls. waste paper.
National City Bank, London Mariner, London, 120 coils old rope.
Chase National Bank, London Mariner, London, 86 bls. rags.
J. Lang Paper Co., London Mariner, London, 96 bls. rags.
Katzenstein & Keene, Inc., Hallfried, Marseilles, 222 bls. rags.
E. J. Keller Co., Inc., Hallfried, ——, 104 bls. rags.
Equitable Trust Co., Hallfried, Barcelona, 153 bls. rags.
Castle & Overton, Inc., Hallfried, Barcelona, 63 bls. rags.
Castle & Overton, Inc., Hallfried, Valencia, 845 bls. rags.
Philadelphia Girard National Bank, Innoko, Rotterdam, 9 bls. rags.
E. J. Keller Co., Inc., Innoko, ——, 619 bls. rags.
Leipheimer Missimer Co., Innoko, Rotterdam, 30 bls. rags.
Castle & Overton, Inc., Collamer, Bordeaux, 56 bls. rags.
Castle & Overton, Inc., Devonian, Ireland, 139 bls. rags.
Castle & Overton, Inc., Blue Triangle, Algeria, 515 bls. rags.
Castle & Overton, Inc., Spar, Belgium, 312 bls. rags.
Bulkley, Dunton & Co., Naumburg, ——, 150 bls. wood pulp.

BALTIMORE IMPORTS.

WEEK ENDING JUNE 16, 1928

Congoleum Nairn Co., Schodack, Havre, 645 bls. rags.
Congoleum Nairn Co., Schodack, Havre, 374 bls. bagging.
S. Shapira & Sons, Schodack, Havre, 68 bls. rags.
Baltimore Trust Co., Schodack, Havre, 44 bls. rags.
Hochschild Kohn Co., Schodack, Havre, 2 cs. writing paper.
E. Butterworth & Co., Inc., Ala, Antwerp, 101 bls. bagging.
Congoleum Nairn Co., Ala, Antwerp, 663 bls. bagging.
Congoleum Nairn Co., Ala, Antwerp, 1,514 bls. rags.
Congoleum Nairn Co., Saucon, Leghorn, 70 bls. rags.
National City Bank, Saucon, Genoa, 116 bls. rags.
E. J. Keller Co., Inc., Dania, ——, 400 bls. wood pulp.
E. J. Keller Co., Inc., Harburg, ——, 344 bls. wood pulp.
Woodpulp Service Corp., Naumburg, Hamburg, 2,300 bls. wood pulp.
Bulkley, Dunton & Co., Naumburg, ——, 4,000 bls. wood pulp.

Strathmore To Add To Memorial Hall

SPRINGFIELD, Mass., June 18, 1928.—A new brick building, about 150 feet long, an addition to Memorial Hall, the present community building at Woronoco, is about to be erected by the Strathmore Paper Company. One section of the addition will be devoted to recreation and another to club and classrooms. This building will replace the old recreation building torn down owing to the relocation of the highway at that point and also an old building which will be removed early next spring after the new building is in use.

The contract to build the addition has been awarded to L. S. Wood of this city and work is to start within two weeks. It will provide excellent facilities for gymnasium and various social and recreational activities, increasing the capacity of Memorial Hall, where church services and other meetings are held and where various kinds of community work have a center. The recreation section is to consist of two stories and basement and the club section, one story and basement. Among other things the smaller sections will provide quarters for the Junior Achievement Clubs.

Plans call for an attractive structure of brick with cast stone trimmings, and to have the building ready for use January first.

Now Chatfield & Woods Co. of Pennsylvania

The Pittsburgh Branch of The Chatfield & Woods Company is now The Chatfield & Woods Company of Pennsylvania, having recently incorporated in that state.

This move permits the purchase of stock by the employees who have helped to make the company a success and is particularly gratifying to W. H. Chatfield of Cincinnati since the Pennsylvania Division was the first of the Chatfield & Woods Company's branches to come under his direct management.

For a number of years the general management of the business has been successfully conducted by F. Forchheimer who is well known in the paper business.

The officers of the new company are, W. H. Chatfield, president, F. Forchheimer, vice president and general manager, C. E. Sjogren, Jr., treaurer and W. F. Doyle, secretary.

To Erect Exposition Buildings in Dayton

DAYTON, Ohio, June 11, 1928.—Erection of exposition buildings capable of accommodating a crowd of 75,000 visitors a day, will follow the incorporation of the Miami Valley Manufacturers' and Merchants' Exposition Company, by a group of Dayton promoters, it was announced today. A site for the buildings has been tentatively selected.

It is planned to make the enterprise a permanent one and to give annual exhibits in which all of the leading industries will be represented. If possible the buildings will be constructed this summer and the first exhibition of manufactured products may be given in August or September. This will require unusually rapid work in the matter of construction. Buildings of a more permanent nature will be erected from the profits of the initial exhibition, if present plans are carried out.

The incorporators are George Morgan, Robert Eckhart and Aurel Vaszin.

There are a number of lines of manufacture in the paper industry that may be interested in such a project but just how far the paper trade will cooperate in the enterprise, remains to be seen. It is said that members have indicated keen interest in the display of certain products of manufacture and the allied lines, including pulp and paper machinery.

With the entire Miami Valley to draw from, an exhibition hall in Dayton, may prove an important feature of industrial life.

Capital Paper Co. to Job Radios

INDIANAPOLIS, Ind., June 18, 1928.—The Capital Paper Company, 225-227 West South street, Indianapolis, has stepped out in a new role for a paper jobbing house. I. F. Kahn, president, has announced that the company has taken over the central Indiana territory for the Atwater Kent radios and will handle all the territory in a jobbing way within a radius of 70 miles of the main office. Seven men who have had much experience in the radio industry will be placed with the company immediately to promote the new line. The company has a floor space of 90,000 square feet and will be equipped with a large display room and also an adequate service department.

BOLTON QUALITY

JOHN W. BOLTON & SONS, INC.

EAGLE KNIFE & BAR WORKS

Lawrence, Mass.

The only firm making KNIVES for every machine from wood pile to finishing room.

It's the KNIVES that do the work!

Prompt deliveries made from stocks in
NEW YORK
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TRADE MARK

No ifs, ands, or buts

We like to have you ask about the quality of Heller & Merz dyestuffs. No questions are evaded. These colors are made to the requirements of modern scientific demand. That is why we believe Heller & Merz dyestuffs will satisfy you as they are satisfying so many exacting users.

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Boston 287 Atlantic Ave. | Chicago 146 W. Kinzie St. | Philadelphia 114 Market St.

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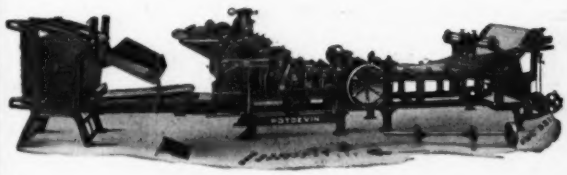
NEW POTDEVIN SACK

CEMENT BAG MACHINE



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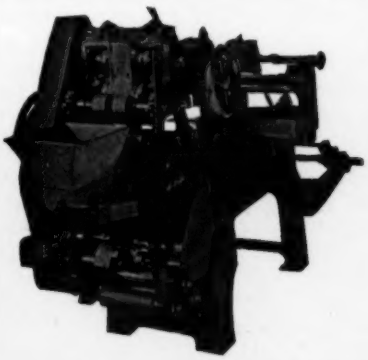

HIGHEST SPEED
Paper Bag Machinery

Get My Quotations Before Placing Your Orders
Special Machinery Designed and Built

A. L. PARRISH,
1702 Robinson St., South Bend, Ind.

New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, June 20, 1928.

Trading in the local paper market was only moderately active during the past week. Demand for the various grades is mostly seasonal, although quotations are generally being well maintained. Sales forces of the leading paper houses are fairly optimistic and look for a satisfactory volume of new orders before the usual midsummer lull sets in.

Demand for news print paper is mostly along seasonal lines. Consumers, however, are reported to be taking a satisfactory volume on contract. Spot offerings are ample for current requirements and prices are rather weak. Generous concessions are being made on contracts signed for 1929.

The board market is in a sound position for the time of the year and prices are holding to schedule, in most instances. Conditions in the fine paper market are fairly good, with quotations practically unchanged. The undertone of the coarse paper market is weaker. Southern kraft prices have been reduced $10 per ton and now range from $3.75 to $4.00.

Mechanical Pulp

Both imported and domestic ground wood pulp are decidedly quiet at present. While supplies are adequate, prices are holding up to former levels, in most instances, and there is little talk of concessions around. Most of the orders being booked at present are for immediate requirements, although there are a fair number of inquiries for future business.

Chemical Pulp

Steadiness prevails in the chemical pulp market. Both domestic and imported bleached sulphite are displaying great strength and the better grades are practically sold out for the year. Swedish unbleached sulphite is said to be 85 per cent sold for the year while the output of Swedish bleached sulphate is 95 per cent sold. Prices are holding to schedule without difficulty.

Old Rope and Bagging

Domestic and imported old rope are in seasonal request. Offerings are about sufficient to take care of the prevailing demand and quotations are being well maintained. Inquiries for bagging are being received in good volume and the outlook for the future is promising. No radical price changes have been recorded recently.

Rags

The foreign rag market is practically unchanged and demand for the different grades is rather quiet, due to high prices, resulting from conditions abroad. The domestic rag market is fairly lively. Roofing grades are in excellent request and cotton cuttings are also active. Prices are generally holding to former levels.

Waste Paper

No radical changes were recorded in the paper stock market during the past week. Old kraft machine compressed bales and mixed papers are in persistent request. Book stock continues firm, with supplies still limited, although higher prices are not anticipated at present. Quotations on most of the grades of waste paper are unaltered.

Twine

Conditions in the twine market are quite satisfactory. Prices continue to hold up well and shading is infrequent. The continued excellent demand for wrapping paper is a favorable factor and while trading may fall off a little during the summer months the industry should enjoy a busy period from Labor Day until the end of the year.

To Install High Pressure Boilers

ST. PAUL, Minn., June 18, 1928.—Boilers of 650 pounds pressure will be installed in the new steam plant of the Waldorf Paper Products Company, of this city.

These boilers are now being fabricated by the Edge Moor Iron Company, which holds the contract to supply them. The boilers are known as the Edge Moor Multi Unit type. There are two of these units each of 1174 boiler horse power.

The Waldorf Paper Products Company is now operating six Edge Moor boilers of the Lonf Drum Box Header type. These are rated at 2650 boiler horse power.

The decision to install high pressure boilers in the Waldorf plant is in line with the present tendency in the paper industry to increase pressures. This is due to the more efficient operation of the turbines which high pressures make possible, also to allow for bleeding the turbine for the steam required in the process work ordinarily around 200 pounds.

The pressure usually adopted in the paper industry heretofore has been between 400 and 450 pounds. The Waldorf Paper Products Company, however, after a careful study of all plant operating conditions, as well as a survey of their individual requirements, adopted pressure considerably above the regular average.

The new Waldorf steam plant is now under construction. The high pressure boilers will be shipped by the Edge Moor Iron Company in August. The new plant is expected to be in operation before the end of the year.

To Make Only Minor Improvements at Mechanicville

MECHANICVILLE, N. Y., June 18, 1928.—Sensational news reports that $50,000,000 was to be expended by the West Virginia Pulp and Paper Company in expansion of the local plant were emphatically denied by an official of the Mechanicville mill. He said the company intended to enlarge its finishing room capacity and that new machinery would be installed but that there would be no new construction work. The cost of the improvements, he said, would be nearer $50,000 than $50,000,000.

C. W. Richards Joins Continental Staff

C. W. Richards, who has been a member of the instructing staff of the M. I. T. School of Chemical Engineering Practice, located at the Eastern Manufacturing Company's plant at Bangor, Me., is now a member of the technical staff of the Continental Paper Company, at Rumford, Me.

R. H. Simmons Visits Dayton

R. H. Simmons, of the Government Printing Office, is visiting in Dayton, Ohio, this week.

ACER & CO., LIMITED

Canada Cement Building

MONTREAL, CANADA

SULPHITE PULP
(Bleached, Easy Bleaching, Strong)

MECHANICAL PULP

KRAFT PULP

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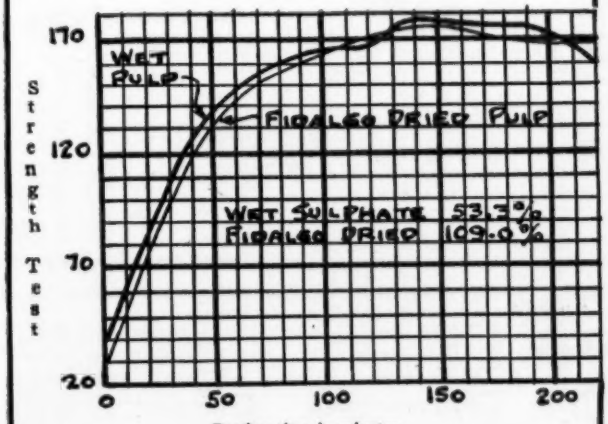
FIDALGO DRYING SYSTEMS

Wet Pulp Results With Dry Pulp



Curve Illustrating comparison between Wet and FIDALGO Dried in Beating and Strength Tests.

Note how closely the curve on FIDALGO Dried Pulp follows the Wet pulp curve.

High steam economy. Shredded Pulp shipped in Bales.

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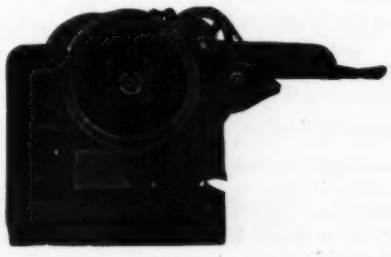
TELEPHONE WHITEHALL 5243 CABLE "HERENCO"

TAYLOR, STILES & COMPANY GIANT REG. U.S. PAT. OFF. RIEGELSVILLE, N.J. U.S.A.

RAG CUTTERS



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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, June 20, 1928.

BLANC FIXE.—Trading in the blanc fixe market during the past week was rather light. Quotations on both the pulp and the powder declined sharply. The pulp is now offered at $40 per ton, in bulk, while the powder is selling at from 3½ cents to 3⅝ cents a pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is practically unchanged. Contract withdrawals are proceeding in fair volume for the time of the year. Prices are generally holding to previously quoted levels. Bleaching powder is selling at from $2 to $2.35 per 100 pounds, in large drums, at works.

CASEIN.—Some improvement was noticed in the casein market and the demand was more active. Prices advanced slightly. Domestic casein is now quoted at from 15½ cents to 16½ cents a pound. Imported casein is offered at from 16 cents to 16½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Supplies of caustic soda are moving in satisfactory volume and the market is in a sound position. Prices remain unaltered. Solid caustic soda is quoted at from $2.90 to $2.95 per 100 pounds. The flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Demand for china clay was moderately active. Contract shipments are going forward at a normal pace. Imported china clay is still offered at from $15 to $25 a ton, in bulk, ship side. Domestic paper making clay is quoted at from $8 to $9 a ton, at mine, and pulverized at from $10 to $12 a ton.

CHLORINE.—The undertone of the chlorine market is strong. Demand for this product is constantly expanding and prices are steady to firm. Chlorine is quoted at 3½ cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 3¾ cents to 4 cents a pound.

ROSIN.—Business in the rosin market is gradually improving. Prices rule somewhat firmer. At the naval stores, gum rosin is now offered at from $9.35 to $9.50 per 280 pounds, ex dock, in barrels. Wood rosin has advanced to from $7 to $7.80 per 280 pounds, southern shipping points.

SALT CAKE.—Steadiness prevails in the salt cake market. Supplies are moving into consumption at a normal pace. Prices remain steady and unchanged. Salt cake is still selling at from $15 to $17 a ton, in bulk, at works. Chrome salt cake is offered at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—Most of the trading in the soda ash market during the past week was along routine lines. Prices are generally holding to previously quoted levels without difficulty. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Conditions in the starch market have quietened down considerably. Contract withdrawals are running well up to average, however. Prices are generally holding to the recently revised schedule. Special paper making starch is quoted at $4.12 per 100 pounds, in bags, and at $4.29 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—While new business in the sulphate of alumina market is rather scarce at present, contract shipments are moving freely. Commercial grades are still quoted at from $1.40 to $1.55 per 100 pounds, in bags, at works. The iron free is selling at from $1.90 to $2.05.

SULPHUR.—The sulphur market continues to exhibit a strong undertone. Demand for this product is excellent and prices are holding up to schedule without difficulty. Sulphur is still selling at from $18 to $19 a ton, in bulk, at mine, on contract orders. The spot quotation is $20 per ton.

TALC.—Offerings of talc are quite sufficient to take care of current requirements. The prevailing demand is mostly seasonal. Prices remain unchanged. Domestic talc is offered at from $16 to $18 a ton, at eastern mines. Imported talc is quoted at from $18 to $20 a ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	4.50	@ 4.75
Southern	3.75	@ 4.00
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

Boards—per ton—		
News	47.50	@50.00
Straw	52.50	@55.00
Chip	45.00	@47.50
Binders' Boards	65.00	@67.50
Sgl. Mla. Ll. Chip.	52.50	@55.00
Wood Pulp	80.00	@85.00
Container	67.50	@72.50
85 test Jute Liner.	57.50	@60.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	30.00	@31.25
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@29.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.65	@ 4.25
Easy Bleaching	2.70	@ 2.90
No. 1 strong unbleached	2.60	@ 2.70
Mitscherlich unbleached	2.65	@ 3.25
No. 2 strong unbleached	2.50	@ 2.60
No. 1 Kraft	2.60	@ 2.75
No. 2 Kraft	2.40	@ 2.50
Sulphate—		
Bleached	3.75	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.60	@ 2.75
News Sulphite	2.40	@ 2.65
Mitscherlich	3.00	@ 3.70
Kraft (Domestic)	2.70	@ 3.30
Soda Bleached	3.35	@ 3.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.65

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1.	11.75	@12.25
New White, No. 2.	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Dark Cuttings.	2.50	@ 3.00
New Mixed Cuttings.	2.75	@ 3.25
Ord. Light Prints.	2.25	@ 2.50
New Light Silesias.	7.00	@ 7.50
Light Flannelettes.	7.50	@ 8.00
Unbleached Cottons.	10.00	@11.00
New White Cuttings.	10.50	@11.50
New Light Oxfords.	7.00	@ 7.50
New Light Prints.	5.50	@ 6.50
No. 1 White Linens.	7.25	@ 8.00
No. 2 White Linens.	5.50	@ 6.25
No. 3 White Linens.	4.50	@ 5.00
No. 4 White Linens.	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Med. Light Prints.	1.90	@ 2.10
Dutch Blue Cottons.	2.25	@ 2.50
German Blue Linens.	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues.	1.75	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.55	@ 1.65
Old Shopperies	1.50	@ 1.55
New Shopperies	1.45	@ 1.55
French Blues	2.10	@ 2.25

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.75
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, heavy	1.60	@ 1.65
Bright Bagging	1.60	@ 1.65
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.00	@ 3.25
Domestic	3.25	@ 4.00
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.25	@ 3.50
Hard, White, No. 2	2.75	@ 3.00
Soft, White, No. 1.	2.60	@ 2.85
Flat Stock—		
Stitchless	1.85	@ 1.95
Overissue Mag.	1.90	@ 2.00
Solid Flat Book	1.75	@ 1.80
Crumpled No. 1	1.35	@ 1.45
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.80	@ 1.90
Manilas—		
New B. B. Chips	.65	@ .75
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.75	@ .85
Container	.60	@ .70
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	1.80	@ 1.90
News—		
No. 1 White News.	1.55	@ 1.65
Strictly Overissue	.80	@ .90
Strictly Folded	.60	@ .70
No. 1 Mixed Paper	.45	@ .50
Common Paper	.30	@ .35

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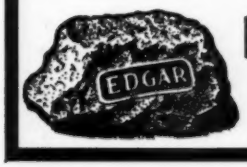

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Twines

(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.02¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 Sheet	.07¼	@	.07½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	37.50	@	41.00
Solid News	47.50	@	—
Manila Lined Chip	35.00	@	—
Container Lined—			
(Delivered Central Territory)			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.80	@	2.90
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.50	@	2.60
No. 1 Mixed	1.00	@	1.05
No. 2 Mixed	.90	@	1.00
Ledger & Writings	1.55	@	1.65
Solid Books	1.25	@	1.35
Blanks	1.70	@	1.80
Krafts	1.90	@	2.00
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.90	@	1.00
Folded News (oversissue)	.65	@	.75
Old Newspapers—			
No. 1	.65	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.80
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.08½	@	.09
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05¼	@	.05½
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	60.00	@	65.00
News Board	47.50	@	—
Chip Board	45.00	@	—
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	80.00	@	90.00
No. 2, per ton	75.00	@	80.00
Carload lots	65.00	@	75.00
Tarred Felts—			
Regular	58.00	@	63.00
Slaters (per roll)	84	@	.94
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.44	@	1.54
Best Tarred, 3-ply	1.93	@	2.08
No. 1 Mixed Paper	.65	@	.70
New Blue	—	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09½
New Black Mixed	.05	@	.05½

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	3.00	@	3.50
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	—	@	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.25	@	3.35
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.40	@	2.50
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	2.00	@	2.10
Writing Paper	1.75	@	1.90
No. 1 Books, heavy	1.75	@	1.90
No. 2 Books, light	1.25	@	1.40
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.80	@	.90
Old Kraft	2.25	@	2.50
Common Paper	.55	@	.60
No. 1 Mixed Paper	.55	@	.60
Straw Board, Chip	.65	@	.75
Binders Board, Chip	.65	@	.75
Overissue News	.80	@	.90
Old Newspaper	.55	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	4.50	@	5.25
Miscellaneous	3.50	@	4.00
White, No. 2—			
Repacked	.02¼	@	.02¾
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.80	@	2.00
Black Stockings	3.75	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.25	@	—
No. 4	.85	@	1.20
No. 5A	.85	@	.90
B	.80	@	.90
C	.70	@	.80

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05½	@	.06½
No. 2 Kraft	.04¼	@	.05
Common Bogus	.02¼	@	.02¾
Delivered New England points			
Straw Board, rolls	.009		57.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	72.50	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.45	@	2.55
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	2.00	@	—
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.20	@	1.25
White Blank News	1.40	@	1.50
Old Kraft	2.00	@	2.10
Print Manila	.70	@	.80
No. 1 Mixed Paper	.47½	@	.50
Overissue News	.70	@	.80
Old Newspapers	47.50	@	52.50
Box Board, Chip	.03	@	—

Bagging

(Price f. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.75
Domestic	1.60	@	1.70
Manila Rope—			
Foreign	2.50	@	2.85
Domestic	3.00	@	3.50
Mixed Strings	.85	@	1.00
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	1.60	@	1.65
New Burlap Cutting	—	@	2.00

Domestic Rags (New)

(Price f. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.09	@	.10
Silesias, No. 1	.05	@	.05¼
New Unbleached	.09½	@	.10
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06	@	.06½
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(Price f. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.00	@	2.15
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.75	@	1.85
No. 2	1.25	@	1.35
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.55	@	1.60
New No. 1 Shirt Cuttings	9.00	@	10.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.50	@	5.00
New Checks & Blues	4.50	@	4.65
Old Fustians	1.90	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	14.50	@	—
No. 2 Coated and Litho	13.50	@	—
No. 3 Coated and Litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Rag	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.60	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	31.00
Sulphite easy bleaching	62.00	@	—
Sulphite news grade	62.00	@	—
Sulphite, bleached	75.00	@	—
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk, News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.80	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.11½	@	—
Fancy Shirt Cuttings	.05½	@	—

Nothing Lubricates Machinery Like ALBANY GREASE

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If you want an extra fine mineral oil lubricant, use Albany Pressure grease—soft, medium, hard, also graphite and transmission.

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ALBANY GREASE

Maintains your high standards of quality papers

ALPHA FIBRE

for the making of fine paper

Alpha Fibre's exceptionally high cellulose content imparts to papers those outstanding qualities which previously were obtainable only through the use of good rags.

Paper hitherto made without rag stock, can be brought to the high quality goal by the use of Alpha Fibre.

WRITE FOR PARTICULARS

BROWN COMPANY

founded 1852

PORTLAND, MAINE

PULP SALES DIVISION

Starch—

A SIMPLE change in the manufacturing process often results in a pronounced decrease in cost of production.

Paper Mills use Starch for sizing to produce better and stronger sheets with lower cost of manufacture.

Our SPECIAL PAPER brand for beater-sizing increases strength of sheet and gives improved finish.

Our FOX HEAD brand for top-sizing is more economical than all glue-size.

CORN PRODUCTS REFINING COMPANY

17 Battery Place, New York City

The B Co. Inc. QUALITY PULPS

HAFSLUND NORWAY

"HAFSLUND BEAR"
Bleached Sulphite

F:HAGA

"FORSHAGA"
Bleached Sulphite

KRAFT HURUM

"HURUM SPECIAL"
Extra Strong Kraft

NORWAY SPECIAL KOOS

BAC

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

The Borregaard Company

Incorporated

200 FIFTH AVENUE NEW YORK, N. Y.

Paper Mill Stocks and Bonds

Quoted by Messrs. McGay & Co., 25 Broad street, New York City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	ASKED
Abitibi Fibre Company 6s, 1947	104	105
Abitibi Power & Paper 6s, 1940	104½	106½
Abitibi Power & Paper 6s, serially to 1934	100	102
A. P. W. Pulp & Power 7s, 1945	101½	103½
American Writing Paper 6s, 1947	84	86
Bastrop Pulp & Paper 6½s, 1940	103½	105½
Beaver Board 8s, 1933	102	103
Beaver Products Corp. 7½s, 1942	109	111
Bedford Pulp & Paper 6½s, 1942	98	100
Belgo-Canadian Paper 6s, 1943	103	105
British-Columbia Pulp & Paper 6s, 1950	90	92
Brompton Paper Serial A 6s, 1946	101	103
Brompton Pulp & Paper 6s, 1935	100	...
Brown Paper Mills Serial 6s, 1941	99	101
Brown Company 5½s, 1946	99	101
Bryant Paper 6s, 1942	100	101½
Canadian Paper Board 7s, 1937	97½	99½
Cape Breton Pulp & Paper 6s, 1932	103	...
Celotex Company 6s, 1929	97	99
Celotex Company 6½s, 1939	100	102
Celotex Company of Chicago Debenture 6s, 1936	97	100
Central Paper Company Serial 6½s, 1942	86	89
Central Paper 7s, 1934	85	90
Champion Coated Paper Serial 6½s, 1934	100	...
Champion Coated Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 8s, 1930	100	...
Champion Paper Corp. 6s, 1945	95	98
Chicago Mill & Lumber Serial 5½s, 1936	98	100
Container Corp. of America Debenture 6s, 1936, ex-warrants	103	105
Continental Paper Products 6½s, 1943	92	95
Cornell Wood Products 7½s, 1937	103	...
Crown Willamette 6s, 1951	102	103½
Dells Paper & Pulp Serial 6s, 1938	95	98
Dixon Board Mills Serial 6s, 1942	60	...
Donnaconna Paper 5½s, 1948	96½	98½
Eastern Manufacturing Co. 7s, 1938	98	100
Escanaba Paper Serial 6s, 1939	98	100
Escanaba Paper 6½s, 1935	96	99
Filer Fibre Serial 7s, 1935	90	95
Fort Orange Paper 7s, 1942	104	...
Fort William Paper 6s, 1946	101	104
Fox River Paper 7s, 1931	100	...
Fraser Company 6s, 1950	103	105
Hammermill Paper Serial 6s, 1939	101	...
Hawley Pulp & Lumber 6s, 1946	96	...
Hawthorne Paper Company 6s, 1937	80	...
Hoberg Paper & Fibre 7s, 1937	95	97
Industrial Fibre Corp. Debenture 8s, 1933	100	...
International Paper 6s, 1955	102	104
International Paper 5s, 1947	100	101
Itasca Paper & Prairie River Paper Serial 5½s, 1938	99½	...
Itasca Paper & Prairie River Paper Serial 6s, 1938	99	...
Jessup & Moore First 6s, 1945	88	92
Kalamazoo Vegetable Parchment 6s, 1938	99	101
Lake Superior Pulp & Paper 6s, 1941	105	108
Manitoba Paper 6½s, 1936	102½	104½
Marathon Paper Mills Serial 5½s, 1942	99½	101
Marathon Paper Mills Serial 6s, 1937	100	...
Marinette & Menominee 7½s, 1936	103	105
Mead Pulp & Paper 5% Notes Serially, 1937	95	100
Mead Fibre 7s, 1937	98	101
Menosha Printing & Carton 6½s, 1939	99½	...
Mjdwest Box Company 6½s, 1940	100	...
Minnesota Ontario Paper Serial 6s, 1945	97½	100
Murray Bay Paper 6½s, 1947	102	105
Munissing Paper Serial 6s, 1936	98	...
Nekoosa Edwards Paper 6s, 1942	96	...
Ontario Pulp & Paper 6s, 1931	108½	110½
Orono Pulp & Paper 6s, 1943	99	...
Orono Pulp & Paper 5s, 1941	96½	...
Oswegatchie Paper Serial 6s, 1932	95	100
Oswego Falls Corp. 6s, 1941	99	102
Oxford Paper 6s, 1947	102½	...
Paepcke Paper Mills 7s, 1930	99	...
Parker-Young Company 6½s, 1944	98	100
Paterson Parchment Paper 6s, 1938	101½	103
Penobscot Chemical Fibre 6s, 1942	102	105
Port Alfred Pulp & Paper 6½s, 1943	105	107
Port Alfred Pulp & Paper 5½s, 1947	98½	100
Price Brothers 6s, 1943	105	...
Provincial Paper 5½s, 1947	98½	...
Provincial Paper 6s, 1940	100	...
Queen City Paper 7s, 1933	98½	...
Richardson & Company 6s, 1938	100	...
River Raisin Paper 6s, 1936	99	101
Riordan Pulp & Paper 6s, 1942	102	104
Rolland Paper 6s, 1937	99	101
St. Anne Paper 6½s, 1946	102	104
St. Croix Paper Serial 5s, 1937	99	...
St. Helen Pulp & Paper 6½s, 1931	99	102
St. Lawrence Paper Mills 6s, 1946	101½	103½
St. Lawrence Paper Mills 6½s, 1936	100½	102½
St. Maurice Valley Corp. 6s, 1945	102	104
St. Maurice Valley Corp. 5½s, 1947	98½	100½
St. Regis Paper of Canada 6s, 1931	100	101½
St. Regis Paper of Canada 6½s, 1934	100	101
Smith (Howard) Paper Mills 6s, 1934	101	...
Smith (Howard) Paper Mills 7s, 1941	104	106
Southern Paper Company 6½s, 1937	100	...
Spanish River Pulp & Paper 6s, 1931	108	110
Stevens-Thompson Paper 6s, 1942	94	96
Taggart Brothers 6s, 1944	95	100
Tait Paper & Color Industries 6s, 1935	88	92
Ticonderoga Pulp & Paper 5s, 1930	94	...
Ticonderoga Pulp & Paper 6s, 1940	100	102
Tomahawk Kraft Paper 6s, 1938	98	...
Tomahawk Pulp Paper 7s, 1932	99	...
Tonawanda Paper 5½s, Series 1941	99	102
U. S. Envelopes 5s, Series 1934	99	...
Union Bag & Paper Power 6s, 1932	98	100
United Wall Paper Factories 6s, 1947	96	99
Warren (S. D.) Company 6s, 1945	103	105
Watab Paper 6½s, 1942	101½	103½
Waterway Paper Products 6s, 1931	100½	101½
Wayagamack Pulp & Paper 6s, 1951	103	105
Westfield River Paper Serial 7s, 1943	89	93
Whitmer-Parsons Pulp & Lumber 8s, 1938	13	20
Whitaker Paper 7s, 1942	108	110

STOCKS	BID	ASKED
American Box Board, Pfd.	9¼	10¼
American Box Board, Com.	9¼	10¼
Am. Tissue Mills, 7% Pfd.	90	93
British Columbia P. & P., Pfd.	65	75
Brompton Pulp & Paper, 8% Pfd.	100	102
Brown Corpn., 7% Pfd.	104	None Off.
Champion Fibre, 7% Pfd.	108	110
Diem & Wing, 7% Cum. Pfd.	92	97
Eastern Mfg. Co., 1st Pfd.	61	64
Great Northern Paper, Com.	72	77
Hammermill Paper, 7% Pfd.	108	110
Hinde & Dauch, Com.	125	None Off.
Hinde & Dauch, 6% Pfd.	102	None Off.
Holyoke Card & Paper	150	None Off.
Marathon Paper Mills, Com.	125	...
Midwest Box Co., 8% Pfd.	98	102
Midwest Box Co., 6% Pfd.	95	99
Louis De Jonge Co., 7% Pfd.	94	97
Oxford Papers, Com.	160	180
Oxford Paper Co., Pfd.	109	111
Penobscot Chemical Fibre, Com.	70	80
Richardson Co., Com.	160	180
Rubberoid	97	102
Sabin Robbins Paper Co., 7% Pfd.	105	110
St. Croix Paper	155	170
St. Regis Paper Co., 7% Cum. Pfd.	107½	109½
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper Company	54	60
West Virginia Pulp & Paper, Pfd.	102½	105½
Whittaker Paper, 7% Cum. Pfd.	105	None Off.

News of the Toronto Industry

A. P. Costigane, secretary-engineer of the Ontario Pulp and Paper Makers' Safety Association, has returned to Toronto after visiting a number of the paper mills in Eastern Ontario. Among the plants visited were the Hinde & Dauch mill at Trenton; Miller Bros., Ltd., at Glen Miller; Canadian Paperboard Company, Ltd., at Frankford; the Howard Smith Paper Mills plant at Cornwall and the Mille Roches mill of Provincial Paper, Ltd.

At the executive committee meeting of the Toronto Typothetae held a few days ago a report was presented by L. T. Acton regarding the proposed campaign to promote a greater use of printed matter in advertising, in which it was stated that a proposal to have a survey made in advance of such campaign had been approved, and that this would be commenced just as soon as the necessary funds had been secured. The employment department reported that some difficulty had been experienced in getting suitable help for firms applying for hands, more particularly in bindery work.

The Port Arthur Division of Provincial Paper, Ltd., has just turned out a new sheet of sulphite bond to be known as "Provincial Mill Bank", both water-marked and plain, which is now being marketed and which it is intended to develop as the demand is established among commercial houses desiring a sulphite stock of the best quality. A limited number of samples have already been sent out to paper houses and consumers.

Business visitors to Toronto during the past few days were John Martin, of Provincial Paper Sales, Ltd., Winnipeg, and P. J. Christie, manager of the wrapping paper division of the same organization. It is known in Government circles in Manitoba that Mr. Martin, who is one of the best known paper men in Canada, has been approached with a view to entering the Cabinet of the Western Province, and it is stated that he will shortly be slated for the Agricultural portfolio.

Continued Simplified Grocers Bags

WASHINGTON, D. C., June 20, 1928.—The Simplified Practice Division, Department of Commerce, announces that the standing committee has reaffirmed the simplified practice recommendation on paper grocers' bags, without change for a period of one year.

The division says that "information presented at the committee meeting indicated an adherence of 95.55 per cent."